

**ICONOGRAPHY AND THE INTERPRETATION OF ANCIENT EGYPTIAN  
WATERCRAFT**

**A Thesis**

**by**

**NOREEN DOYLE**

**Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of**

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**May 1998**

**Major Subject: Anthropology**

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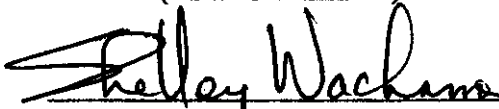
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## ABSTRACT

Iconography and the Interpretation of Ancient Egyptian Watercraft. (May 1998)

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Pharaonic Egyptian civilization was Nilocentric and dependent upon watercraft. As a result, a nautically rich iconographic legacy is available to enhance the evidence provided by the archaeological remains of actual boats. Egyptian literature abounds in nautical metaphors and presents a vast reservoir, imperfectly understood, of Egyptian nautical terms. Artists, generally highly skilled professionals, were familiar with watercraft in their daily lives. However, the dictates of their artistic conventions make modern interpretation of both two- and three-dimensional representations of boats and crews difficult, as have artistic errors caused by constraints of the media, techniques or carelessness. Past interpretive errors have included mistaking rower's seats for tholes, stepped gangplanks for "ladders," and loaves of bread for anchors.

The Egyptian artist depicted ideals and attempted to portray objects and figures in such a way as to reflect the conceptual, rather than perceptual, reality of his world. Key details such as lanyards and crosspieces are often omitted from representations. A single piece of evidence may remain our only evidence for a type of ship or activity; subjects and features known from contemporary literature or the archaeological record, including passenger ferries, harbor works, and the participation of women, do not appear or are scanty in the iconography. Artists picked and chose from the reality around them to suit their own needs, not ours, and, thus, present an incomplete picture of the ancient reality. Even the extant, published iconography is incomplete; reliefs have lost their original painted surfaces and many scenes are in fragments. The publications themselves, although invaluable, present their own difficulties to researchers, who must be prepared to alter their reconstructions and hypotheses as new sources and the opportunity for better examination of the record become available.

**For**

**my parents, Lawrence J. and Adrienne Doyle;**

**and**

**my grandparents, William F. and Louise Adams,  
who have moored and wait with M. and K. in the West.**

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Ralph Pedersen has been an enormous help, both as a colleague and a friend. I am deeply grateful for the hospitality he and Martha Pedersen (and Master Erik) offered me in my occasional sojourns south, and for encouraging me to stay my course.

This paper was written and researched almost entirely in that old cradle of ships, the state of Maine, which is not, sadly, known for its Egyptological resources. Interlibrary Loan Services of the Maine State Library went above and beyond the call of duty to find my "big books." When circumstances enabled me to venture over the Piscataqua, the staffs of the Thomas J. Watson Library, the Central Catalog and the Department of Egyptian Art at the Metropolitan Museum of Art, as well as the Oriental Division of the New York Public Library, provided keenly needed services. I most certainly would have run aground were it not for the kindness and expertise of Mary Gow and Diane Bergman of the Wilbour Library of Egyptology at the Brooklyn Museum of Art. Sam Mark and Kristin Romey, past and current librarians for the Nautical Archaeology Program, generously lent me their resources and efforts. I would also like to thank William Charlton for the help he rendered me, and for appreciating all the knots; and to J. Richard Steffy, Fredrick M. Hocker and James D. Macdonald, for keeping (some!) of my terminology from going too far adrift.

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## ABBREVIATIONS

BAM	Ägyptisches Museum, Berlin
BD	Book of the Dead
BM	British Museum, London
BMA	Brooklyn Museum of Art
CT	Coffin Text
EM	Egyptian Museum, Cairo
MFA	Museum of Fine Art, Boston
MMA	Metropolitan Museum of Art, New York
N	"so-and-so," the name of the deceased mentioned in passages of the Coffin Texts or the Book of the Dead
O.	Ostrakon
P.	Papyrus
PT	Pyramid Text
TT	Theban Tomb (see Appendix 1)
ROM	Royal Ontario Museum, Toronto
YAG	Yale University Art Gallery, Princeton
YPM	Peabody Museum of Natural History, Yale University, Princeton

References to Jones 1988 are followed by the chapter and list number assigned to the term in that work.

Some references to Faulkner 1973-79 are followed by volume and page references to the manuscript transcription in de Buck 1953-61.

## CHAPTER I

### INTRODUCTION

[The] Egypt to which we sail nowadays is, as it were, the gift of the river. . . .

Herodotus, *The Histories* II chapter V.

### THE NILE

The longest river on earth begins as rain in the highlands of Ethiopia and melting glacial ice in Rwanda and Burundi. "Mountains of the Moon" the Alexandrian geographer Ptolemy called the latter in the second century C.E., writing further that from them "the lakes of the Nile receive snow water."<sup>1</sup> These "lakes of the Nile" -- modern-day Victoria, Edward, Kyoga and Albert -- collect the water of many streams and small rivers, and pour them through the Victoria Nile, over Murchison Falls to the Albert Nile, at last into the White Nile, which snakes its way through southern Sudan to Khartoum. At Khartoum the White Nile meets the second headwaters, the larger Blue Nile, which provides more than half of the water to flow into Egypt.<sup>2</sup> Beyond the Sixth Cataract (these are numbered as Classical travelers encountered them, from north to south) a third and final headwater, the Atbara, joins the flow, and the resulting river tumbles over five more cataracts to ancient Elephantine. There, at the navigable First Cataract, "the gift of the river" comes into being. The extent of Egyptian cultural influence and presence in Nubia has risen and fallen like the Nile,<sup>3</sup> but Elephantine (modern Aswan) is usually reckoned as the southernmost tip of pharaonic Egypt proper. Here the river becomes fully navigable for eleven hundred kilometers to the Delta and the Mediterranean Sea beyond.

Until the construction of the Aswan High Dam in the 1960's, the Nile was a seasonal river. Each year, after the savanna rains and Ethiopian monsoon had swollen the headwaters, the Nile overflowed its banks. The resulting flood covered the valley with new silt and removed accumulated salts from the soil, creating conditions ideal for agriculture. Between mid to late August (in Upper Egypt) and late September to early October (in Lower Egypt),<sup>4</sup> a season the pharaonic Egyptians called "Inundation," the

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Nile was at its height.

While the temporary high waters made the fields unworkable, they also made more convenient the transport of stone. Idled farmers found themselves subject to *corvée* labor at quarries and construction sites.<sup>5</sup> But when the floodwaters receded in October and November, during the season known to the Egyptians as “Emergence,” farmers returned to the fields to cultivate the replenished soil and sow their crops.

As early as the Amratian Period (c. 4100-3600 B.C.E.), efforts were made to improve the natural irrigation system.<sup>6</sup> Widening the effective area of the flood permitted the growing of second crops and lessened the impact of low inundations.<sup>7</sup> These began as relatively minor alterations to existing conditions, such as dredging natural channels, breaching natural levees, constructing small earthen dams, and porting water into fields.<sup>8</sup> The king, embodiment of the unification and prosperity of the land, ritually participated in these humble irrigation works (fig. 1-1).<sup>9</sup> Later, the Egyptians developed more elaborate systems such as *shadufs*, artificial canals and lakes, as well as quays and harbors.

Emmer and barley formed the mainstays of Egyptian agriculture, supplemented by such garden crops as lettuce, garlic, and chickpeas. Orchards<sup>10</sup> and vineyards provided fruit, stands of trees provided wood. Flax was grown for oil and for fiber. Papyrus was gathered from marshes (fig. 1-2), along the margins of which livestock was grazed.<sup>11</sup> Uncultivated marshland also yielded abundant fish and fowl.

These flooded lands with their fertile soil gave Egypt its pharaonic name: *kmt*, the Black Land. Like a thin ribbon it ran between the “Red Lands,” the Eastern and Western Deserts. Hemmed by sandstone cliffs, the expanse of arable soil in Upper Egypt was not so wide as in the north; in some places, such as Gebel el-Silsila, the Red Lands encroached upon the edge of the water. Here, quarries replaced farms.<sup>12</sup>

The Delta, by contrast, was a wide open expanse, riddled with innumerable streams and as many as five main branches during the later New Kingdom.<sup>13</sup> Levees and other areas of permanently dry ground provided areas for settlement.

A third region, apart from the Nile itself but intimately connected to it, is the Faiyum. Joined to the Nile by the Bahr Yusef, the central feature of this fertile depression in the Libyan Desert is a large



Fig. 1-1. The king opening an irrigation channel or canal. Detail from the Scorpion Machead. Limestone. Hierakonpolis. Predynastic or Dynasty I. After Emery 1991: pl. 2a and Butzer 1976: 21 fig. 2.

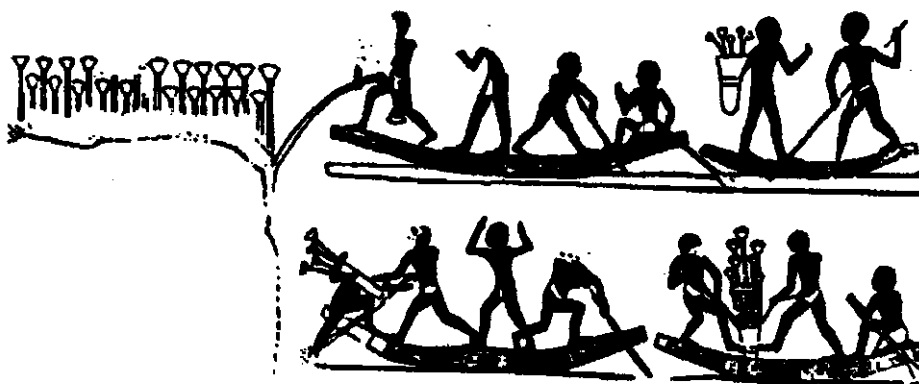


Fig. 1-2. Men aboard papyrus rafts gathering papyrus. Painting. Beni Hasan, Tomb of Bakt I. Dynasty XI. From Newberry 1893-94.2: pl. XXIX.

fresh-water lake, known today as Birket Qarun. It too once rose and fell with the river that fed it.<sup>14</sup> Classical writers called this body of water Moeris, from the Egyptian *Mr-wr*, "Great Lake,"<sup>15</sup> and the Ptolemies were instrumental in lowering the level of the lake for their extensive irrigation projects.<sup>16</sup>

Like the Faiyum, the Nile Valley today is not what it was five thousand or even two thousand years ago. Not only has the level of the floodplain risen through the centuries,<sup>17</sup> but the course of the river itself has altered. Although the stone-hedged portion of the southern Nile Valley has seen only minor alterations, elsewhere a dramatic, generally eastward shift is apparent. This has resulted not only in the obliteration of sites on the former east bank but the "stranding" of sites on the west bank kilometers away from the river that once served them.<sup>18</sup>

Today, our only glimpses of the Nile of antiquity are through the reports of early modern travellers, archaeological and geological surveys, and the writings and art works of ancient times.

## THE USE OF BOATS IN ANCIENT EGYPT

Until the modern rail system began to compete successfully with *gyassas*, *sandals* and *dahabiyas*, the Nile was the highway of Egypt. In the nineteenth century, Amelia Edwards met with a "perplexing" array of *dahabiyas* for hire: "boats with six cabins and boats with eight; boats provided with canteen, and boats without; boats that can pass the cataract, and boats that can't . . ." <sup>19</sup> And these are only boats, "all built on the same plan," <sup>20</sup> of interest to a wealthy English traveler! Unmentioned but undoubtedly present would have been the fishing boats, ferries, cargo vessels, and myriad other watercraft to which that same Cairene harbor was home.

The seminal Nilotic watercraft is the papyrus raft (figs. 1-2, 1-3, 1-4, 1-5), used in ancient times to ferry goods (fig. 1-3) and exploit resources not otherwise readily available: papyrus (fig. 1-2), waterfowl (fig. 1-3), fish (fig. 1-4), and remote grazing grounds (fig. 1-5). Particularly for funerary barges, boatbuilders imitated its form in wood millennia after the perfection of carpentry (fig. 1-6), <sup>21</sup> and the gods, originating in Egypt's unwritten Predynastic past, retained papyriiform watercraft as their divine boats *par excellence* (fig. 1-7).

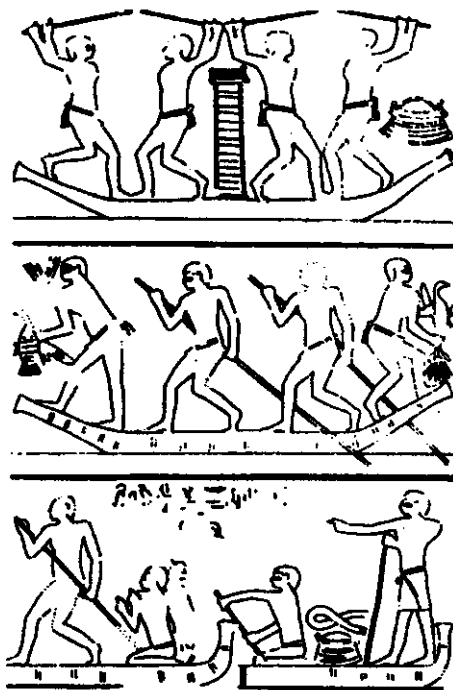


Fig. 1-3. Men engaged in ritualistic combat, fowling, and transporting goods aboard papyrus rafts. Relief. Deir el-Gebrawi, Tomb of Ibi. Dynasty VI. From Davies 1902.2: pl. 5.

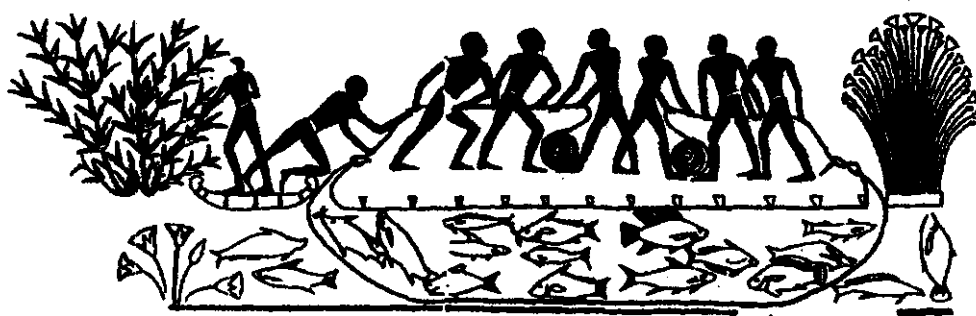


Fig. 1-4. Men fishing from shore and from a papyrus raft. El Bersheh, Tomb of Ahanakht. First Intermediate Period. From Newberry n.d.2: pl. XVI.

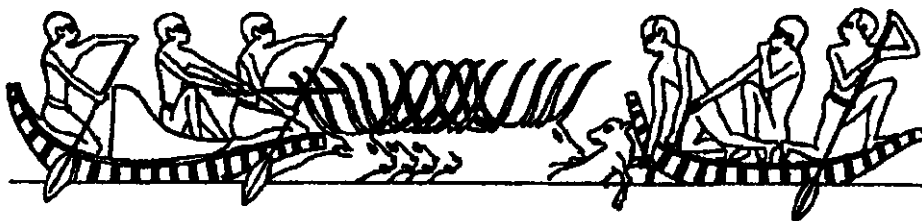


Fig. 1-5. Men aboard papyrus rafts herding cattle. Relief. Saqqara, Tomb of Rashepses. Dynasty V (Isesi). After Boreux 1925: 215 fig. 60.

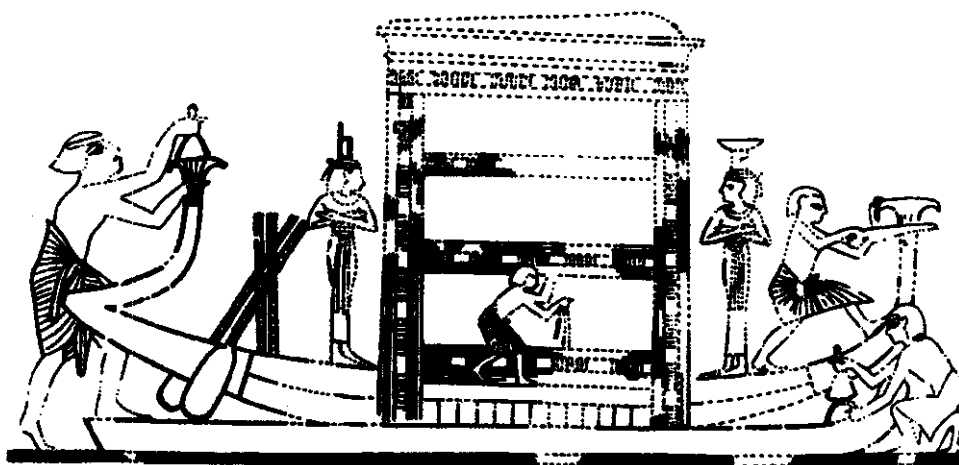


Fig. 1-6. Carpenters building a papyriform funerary model boat. Painting. TT 51. Dynasty XIX (Seti I). From Davies 1927: pl. XXXVI.



Fig. 1-7. The deceased, the god Ra, and a goddess aboard a divine papyriform boat in the netherworld. Papyrus of Nu (BM 104777). Drawing on papyrus. New Kingdom. From Budge 1923: 307.

Although fishermen eventually adopted wooden boats, papyrus rafts continued to appear in ritual fishing and fowling scenes through the New Kingdom (fig. 1-8). In these scenes, the tomb-owner hunts birds and hippopotamuses and, despite the proverbial stink of the fisherman and his catch,<sup>22</sup> spears fish, symbolically slaying the forces of chaos.<sup>23</sup> Fishermen used nets, traps, spears (harpoons) or hooks, and frequently worked from shore, sometimes in tandem with men aboard a raft (fig. 1-4).<sup>24</sup> Boats further served as preparation facilities, having been equipped with lines strung between forestay and backstay, on which split fish were hung to dry (fig. 1-9). Fishermen, employed by both temples<sup>25</sup> and estates,<sup>26</sup> provided an important source of protein,<sup>27</sup> and the same kinds of boats used to transport grain also transported fish.<sup>28</sup>

Papyrus rafts might ferry a calf (fig. 1-3) or be used to herd cattle across a stream (fig. 1-5), but wooden boats provided a far more effective means by which to transport livestock. During the New Kingdom, horses occupied stalls forward of the cabin (fig. 1-10), the chariots they pulled being stowed on the cabin roof (fig. 1-11).<sup>29</sup> Cattle or goats were penned (fig. 1-12) or stood unenclosed on deck (fig. 1-13). One kind of boat was called specifically a "cattle ferry" (*hn-ib*), but this was not its exclusive purpose. A Dynasty XIX official reported to the king that he had loaded two cattle ferries with 1600 jars of wine and other drink, 50 sacks of pomegranates and 110 sacks and baskets of grapes.<sup>30</sup>

Temples, which might own agricultural land far removed from the temple proper,<sup>31</sup> royal authorities<sup>32</sup> and private estates<sup>33</sup> alike maintained fleets of boats of various kinds to oversee and transport the fruits of their workers' labor.<sup>34</sup> Scribes kept logs of shipments, delivery of material to the dockyards, and work done.<sup>35</sup> Private individuals could own boats, enabling them to engage in economic transactions beyond their villages.<sup>36</sup>

The high Nile at inundation made possible the transportation of large quantities of stone from distant quarries to desirable building sites. This involved prodigious feats; one literary text mentions the use of three thousand sailors to transport the stone lid of a sarcophagus for Mentuhotep IV (Dynasty XII).<sup>37</sup> In keeping with her desire to "re-found" Egypt and "ordain tranquility"<sup>38</sup> rather than exploit military accomplishments, Hatshepsut (Dynasty XVIII) aggrandized her transport of two large obelisks





Fig. 1-8. Ritual fishing, and boatmen fighting, aboard papyrus rafts. Painting. Beni Hasan, Tomb of Khnumhotep. Dynasty XIII (Senwosret II). From Newberry 1893-94.1: pl. XXXIV.



Fig. 1-9. Fishermen. TT 78. Dynasty XVIII (Thutmose III - Amenhotep III). From Wilkinson 1994.2:181 fig. 420.

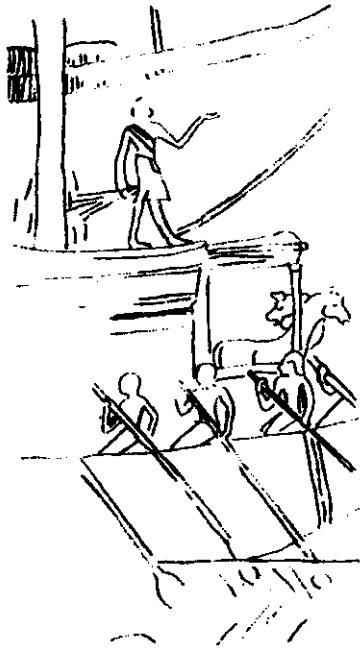


Fig. 1-10. Ship with stables forward of the cabin. Relief. Memphis, Tomb of Tia and Tia. Dynasty XIX (Rameses II). After Martin 1991: 111 fig. 72.

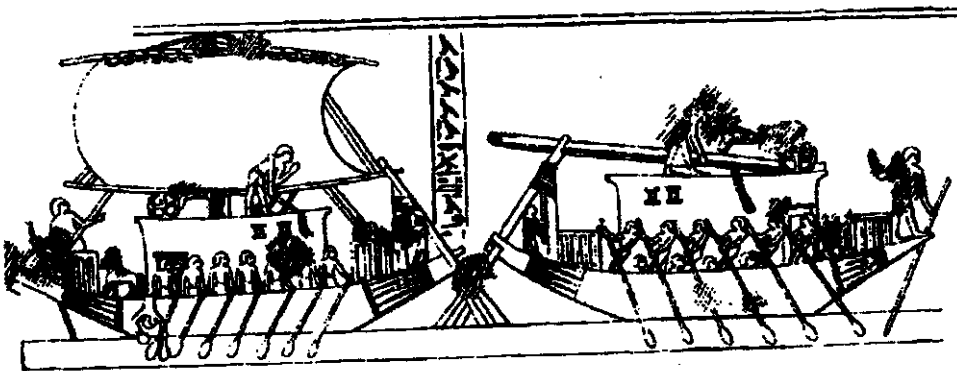


Fig. 1-11. Ships transporting horses and chariot. El Kab, Tomb of Pakeri. Dynasty XVIII. From Tylor and Griffith 1894: pl. III.



Fig. 1-12. Cattle-boats. Painting. TT 40. Dynasty XVIII (Tutankhamen). From Davies 1926: pl. XXXII.

from Aswan to Karnak not only in text but in reliefs.<sup>39</sup>

Foreign goods entered the country by boat, and Egyptian exports traveled overseas.<sup>40</sup> By the reign of Sneferu (Dynasty III) and likely much earlier, fleets of more than forty ships were bringing cedarwood from the Levant into Egypt.<sup>41</sup> The Egyptians made expeditions to the Red Sea, bringing prefabricated ship timbers through the Wadi Hamammat,<sup>42</sup> which were then assembled on the seashore for the journey to Punt.

Stowage practices varied from boat to boat. Objects appear piled on deck (fig. 1-12, fig. 1-13), even as in modern times sailboats piled high with pottery make their way from the production centers to market.<sup>43</sup> Heavy loads, such as stone, were shipped in this way (fig. 1-14). But goods were shipped in the hold (fig. 1-15) or in bins on deck (fig. 1-16) as well.

As the Nile extended the economic reach of individual and temple, so it provided a corridor for the king's influence and was instrumental in sustaining order. Officials traveled to and from their royal appointments by boat. As divine barques bore images of gods, boats of state bore those of the king or queen, creating an unmistakable statement of authority.<sup>44</sup> Even more openly propagandistic were the finials at the bow of the warships that Rameses III (Dynasty XX) used to repulse the invading Sea Peoples: the head of a foreigner clenched in the jaws of a lion, symbol of royal authority (fig. 1-17).<sup>45</sup>

Although ships were generally used for transport of soldiers or booty rather than combat,<sup>46</sup> "Crew Commander" Ahmose son of Ebana recorded "fighting on the water"<sup>47</sup> during the expulsion of the Hyksos by King Ahmose (Dynasty XVIII). When the Nubian King Piye undertook conquest of Egypt (Dynasty XXV), he did so by river:

Sailing north on the river they (the Nubian forces) met many ships going south with soldiers and sailors, all kinds of fighting troops from Lower Egypt, equipped with weapons of warfare, to fight against his majesty's (Piye's) army. Then a great slaughter was made of them, whose number is unknown. Their troops and ships were captured, and taken as prisoners to where his majesty was.<sup>48</sup>

Later Piye made a marine assault on the harbor of Memphis.<sup>49</sup>

These were perhaps the greatest naval battles in Egyptian waters since the days when Rameses III

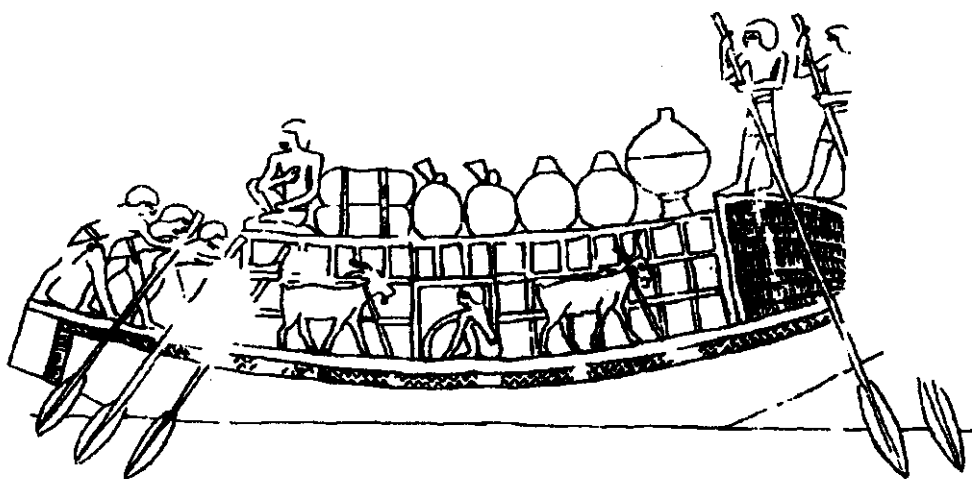


Fig. 1-13. Cargo boat. Abusir, Tomb of Ptahshepses. Dynasty V. After Verner 1977.2: no. 4.



Fig. 1-14. Ships carrying architectural elements. Relief. Saqqara, Causeway of Unas. Dynasty V (Unas). After Hassan 1954: 137 fig. 1.

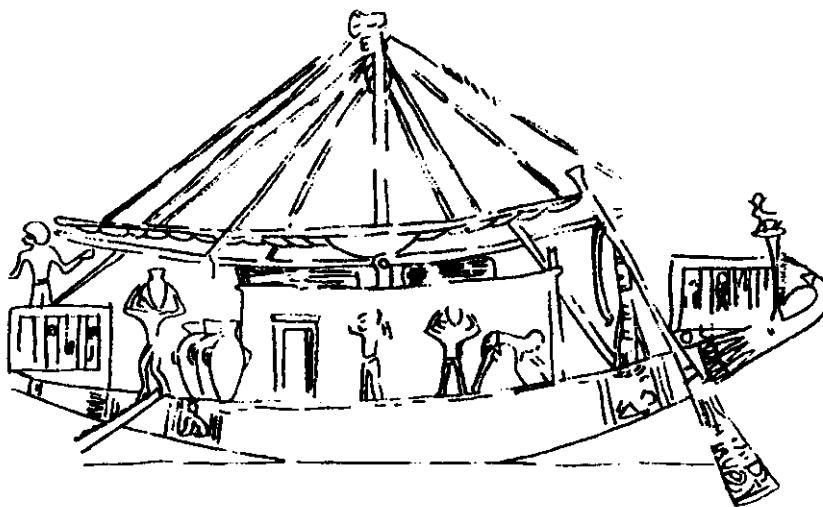


Fig. 1-15. Stevedores unloading a ship. Painting. TT 261. Dynasty XVIII (Thutmose IV). After Davies and Gardiner 1936.1: pl. XXXVIII.



Fig. 1-16. Stevedores loading grain aboard a ship. Painting. Thebes. Dynasty XVIII. After Vandier 1969.2 pl. XLVI fig. 362 and Landström 1970: 134 fig. 393.

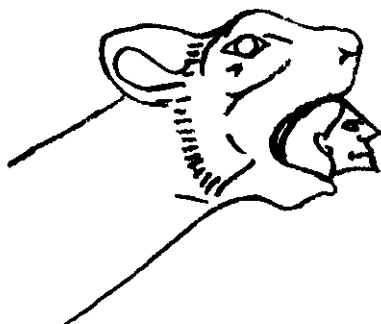


Fig. 1-17. Bow decoration from one of the warships of Rameses III. Medinet Habu, Temple of Rameses III. Dynasty XIX (Rameses III). After Epigraphic Survey 1930: pl. 40A.



Fig. 1-18. Men fighting from a boat. TT 386. Dynasty XI. After Jaros-Deckert 1984: pl. 14.

fought off the Sea Peoples.<sup>50</sup> The ships employed in these campaigns are not well known. With the exception of the warships of Rameses III, we have representations of ships used in combat from only the Dynasty XI tomb of Intef (TT 386) (fig. 1-18). These depict long, shallow craft that serve as fighting platforms for archers and soldiers wielding axes.<sup>51</sup>

The typical destination of a boat in Egypt was not, of course, the battlefield, nor was the typical passenger a soldier. Ferries took aboard passengers for a fee,<sup>52</sup> although it was considered unseemly for an opportunistic boatman to charge the poor too much.<sup>53</sup> A passenger was expected to observe a level of protocol aboard a ferry; he should neither speak to his fellows<sup>54</sup> nor hinder them in any other way.<sup>55</sup> If, for whatever reason, the ferry-crew needed help with the rowing, a passenger was obliged to lend a hand.<sup>56</sup>

Boats and model boats ferried gods in festive processions, the most luxuriant of which was the New Kingdom Festival of Opet. The earliest record of this festival, dedicated to the Theban divine triad of Amon, Mut and Khonsu, is the Stele of Ahmose I at Karnak, in which the king declares that he has ordered the construction of the god's sacred ship, *Wsr-ḥꜥt Imn*, for the procession.<sup>57</sup> Thutmose III recorded having built another *Wsr-ḥꜥt Imn* with ornamentation of electrum, silver and gold.<sup>58</sup> The most lavish description of this vessel belongs to Rameses III, who boasted

I hewed for thee [Amon] thy august ship *Wsr-ḥꜥt* of 130 cubits (length) upon the river, of great cedars of the (royal) domain, of remarkable size, overlaid with fine gold to the waterline, like the barge of the sun, when he comes from the east, and everyone lives at the sight of him. A great shrine was in the midst of it, of fine gold, with inlay of every costly stone like a palace; rams' heads of gold from front to rear, fitted with uraeus-serpents wearing atef-crowns.<sup>59</sup>

Boats were themselves sometimes deified.<sup>60</sup> The lists of divinities in BD 141 and 142 name the *neshmet*-barque of the funerary god Osiris and the day-barque and night-barque of the sun-god.<sup>61</sup>

Death did not bring an end to an Egyptian's dependence on watercraft. A boat ferried his body and gravegoods across the Nile to the traditional burial places on the western shore. His coffin might be dragged to the tomb in a model boat set upon a sledge (fig. 1-7). Spells in the Coffin Texts and the Book



of the Dead summoned the divine ferryman,<sup>62</sup> so that his soul might journey aboard divine ships (fig. 1-8). The boat that made his travel and commerce so much easier in life continued to do so forever in the netherworld.

## THE HULLS

The Egyptians' desire to "bring a boat into heaven" led to the preservation of important evidence that would not otherwise have survived in such superb and detailed condition. The principles of pharaonic Egyptian shipwrighty are now well documented and understood, due particularly to exhaustive study by C. W. Haldane,<sup>63</sup> P. Lipke and Ahmed Youssaf Moustafa<sup>64</sup>: the hull was built up from a central strake, planks locked together with joggled edges, fastened by mortise and tenon joinery and lashed from within with rope. There was no true keel; the Egyptians relied instead on the thickness of the planks and, in some vessels, girders and trusses to provide longitudinal stability. Lateral stability was achieved by beams and/or frames. Pegged mortise-and-tenon joinery, although known from pharaonic furniture, does not make its appearance in the nautical record until the Late Period.

Many of the boats from which this evidence comes were buried, either as funerary equipment or, more ignominiously, as fill for construction ramps.<sup>65</sup> They are:

- The Tarkhan planks.<sup>66</sup> Although not conclusively ship timbers, these planks from Dynasty I tombs have features in common with the Khufu I boat and the Lisht timbers.
- The boat graves at Abydos.<sup>67</sup> These early Dynastic vessels have not been fully published, but the profile of one of these boats has been described as resembling that of the Khufu I vessel<sup>68</sup> (see below). The graves themselves range in length from 19 to 29 meters, are approximately 3.5 meters in breadth, and .5 meters deep. To what extent they resemble iconographic evidence of this period is not yet clear, but Haldane writes that they may resemble wooden model boat EM 4814 (fig. 1-19).<sup>69</sup>
- The boat graves at Helwan.<sup>70</sup> The remains of nineteen early Dynastic wooden boats were located during the excavations of this site, but they have not been adequately described in publication.
- The boat graves at Saqqara.<sup>71</sup> Like the graves at Helwan, these have been inadequately studied



Fig. 1-19. Model boat (EM 4814). Wood. Naqada III. From Reisner 1913: 20 fig. 88.

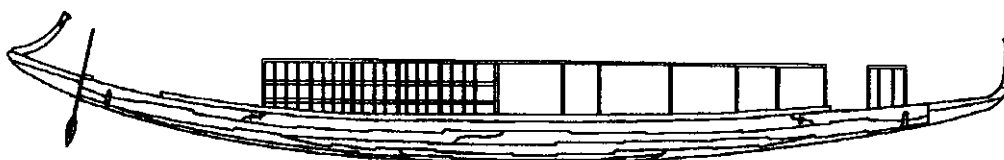


Fig. 1-20. The Khufu I boat. Wood. Giza, Pyramid Complex of Khufu. Dynasty IV (Khufu). After Steffy 1994: 24 fig. 3-1, Landström 1970: 30-31 fig. 89, Lipke 1984: fig. 52.

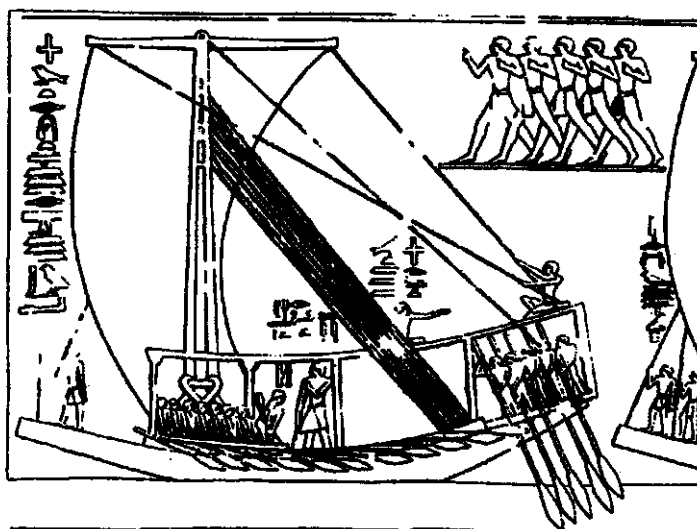


Fig. 1-21. Sailing ship. Relief. Saqqara, Tomb of Ty. Late Dynasty V. From Épron, Daumas, Goyon and Montet 1939: pl. XLIX.

or published.

- The Khufu I and Khufu II boats (fig. 1-20).<sup>72</sup> Only Khufu I has been fully studied and published. Found in a pit associated with the pyramid of Khufu at Giza, the dismantled timbers of cedar and other woods were meticulously reconstructed by Ahmed Youssaf Moustafa. The result was a ship of considerable complexity and grace: a “custom-built limousine” of its day.<sup>73</sup> It measures 43.63 meters in length, 5.66 meters in beam, and 1.78 meters in depth. Approximately 9 meters of its length is occupied by a deckhouse. Stem and sternpost are not structural members but lotiform decorative elements: the stem is straight, the stern incurved. Iconography provides us with no image of exactly such a ship as this, although its profile mirrors that of sacred and funerary boats (fig. 1-6, fig. 1-7). Deckhouses during this period are common (fig. 1-21), but the boats with deckhouses exhibit a different form of hull and are typically rigged for sailing. The best iconographic parallel comes from about a century later, during the reign of Sahure (Dynasty V) (fig. 1-22): a “ship of state” which has not only the papyriform stem but a baldachin at the bow as well.

- The Lisht timbers.<sup>74</sup> These represent fragments of a working boat or boats that had outlived their nautical utility and were broken up and deposited as roadway or ramp fill. These timbers were hewn entirely from native materials, namely *Tamarix* sp. and *Acacia* sp. Both planks and framing elements were recovered. Although a planking pattern and frame have been reconstructed,<sup>75</sup> the appearance of the hulls from which these timbers came is unknown.

- Dashur boats (fig. 1-23).<sup>76</sup> In the 1890's at least five boats were recovered near the pyramid of Senwosret III (Dynasty XII). The whereabouts of only four are known today. They range in length from 9.25 to 9.92 meters, in beam from 2.15 to 2.43 meters, and in depth .72 to .79 meters. Unlike the Khufu boats, they are provided with throughbeams, which appear in both models and two-dimensional representations of boats. Finials, probably papyriform like those of the Khufu I vessel, once occupied the bow and stern, but only indications of joinery survive. Traces of paint indicate that they were painted in the same colors and patterns as model funerary barges.

- The hull remains from Wadi Gawasis.<sup>77</sup> Found at the site of a Middle Kingdom port on the Red Sea, these fragments represent the only identified remains of an Egyptian seagoing ship and share similarities with the Lisht timbers.

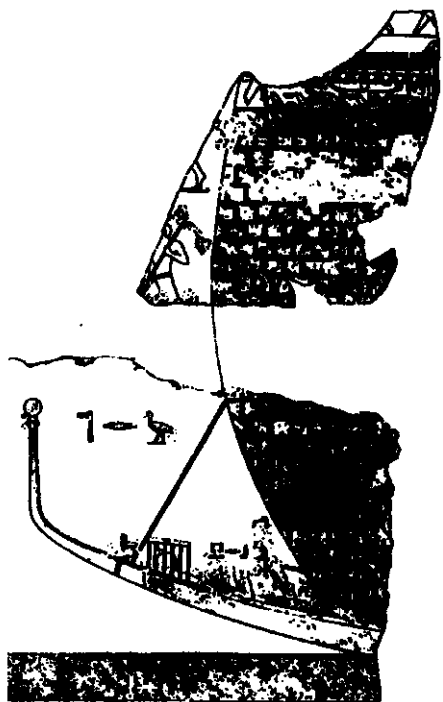


Fig. 1-22. Sailing ship. Relief. Abusir, Temple of Sahure. Dynasty V (Sahure). From Borchardt 1913: pl. 9.

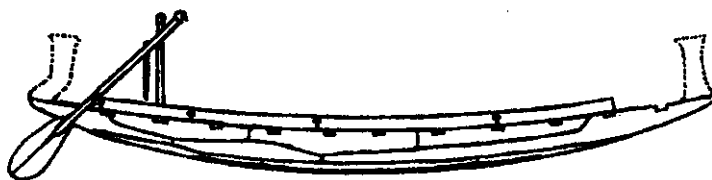


Fig. 1-23. Composite drawing of a Dashur boat with hypothetical decorative finials at bow and stern. Wood. Dashur, Pyramid Complex of Senwosret III. Dynasty XIII (Senwosret III). After Landström 1970: 90 fig. 257, Patch and Haldane 1990: 2 fig. 1, Haldane 1993: 206 fig. 10-2.

• The Mataria boat.<sup>78</sup> Like the Lisht timbers, these remains are those of a working boat, also constructed of local wood (*Ficus sycomorus*). It dates to the Late Period, probably to the period of Persian domination, and was greater than 11 meters in length. Unlike the other boats, there is evidence that it once held a mast. Also unlike the other boats, the Mataria boat used pegged mortise-and-tenon joinery.

These remains represent funerary vessels from the Early Dynastic, Dynasty IV and Dynasty XII, and working boats from the Middle Kingdom and Persian Period. They represent a broad spectrum in time and demonstrate at once continuity and change in the craft of the Egyptian boatbuilder. But even as Amelia Edwards gave us descriptions of only those *dahabiyahs* that might convey a European traveler upriver in relative comfort, these boat remains do not convey a complete picture of the Egyptian nautical scene. For a more comprehensive, though certainly incomplete, view, it is necessary to examine not the boats themselves but rather the works of the artists who portrayed them.

## NOTES

- <sup>1</sup> Ptolemy, *The Geography* IV chapter VIII. Seventeen hundred years later, European explorers scoffed at the notion of African glaciers (Brander 1966: 27).
- <sup>2</sup> Brander 1966: 85.
- <sup>3</sup> See., e.g., Trigger , Kemp, O'Connor and Lloyd 1983: 124-36, 160-73, 255-70, 345-46.
- <sup>4</sup> Butzer 1976: 17, Baines and Málek 1984:15, Harrell and Bown 1995: 83.
- <sup>5</sup> In modern times, and perhaps ancient as well, during the dry season sailors had to hire themselves out as farmers and porters (Edwards 1888: 39).
- <sup>6</sup> Van Lepp 1995.
- <sup>7</sup> Attempts to regulate the inundation were not always successful; for example, a series of low inundations is blamed in part for the collapse of the Old Kingdom (Butzer 1976: 28-29).
- <sup>8</sup> Butzer 1976: 20.
- <sup>9</sup> The creation of canals and lakes became a common royal boast (e.g., the Inscription of Kheti II at Siut, Dynasty IX-X; Breasted 1906.1: 188-89 §407). Note that even at this early date the irrigation works were of sufficient scale for boats to navigate them; the bow of a boat appears in the lower right of fig. 1-1 (cf. Quibell and Petrie 1900: 9). Baines and Málek (1984: 79) interpret this scene as the excavation not of a canal but rather of a foundation trench for a temple.
- <sup>10</sup> For a discussion of the specialized irrigation needs of orchards see Eyre 1994.
- <sup>11</sup> Baines and Málek 1984: 16; Eyre 1994: 63.
- <sup>12</sup> Baines and Málek 1984: 75.
- <sup>13</sup> Butzer 1976: 25.
- <sup>14</sup> Butzer 1976: 36.
- <sup>15</sup> Baines and Málek 1984: 131.
- <sup>16</sup> Butzer 1976: 37; Baines and Málek 1984: 131.

- 17 Trigger, Kemp, O'Connor and Lloyd 1983: 9.
- 18 Butzer 1976: 33-36; 78 fig. 11.
- 19 Edwards 1888: 9. Some of the larger *dahabiyas* were "under the suspicion of being used in summer for the transport of cargo" (1888: 10).
- 20 Edwards 1888: 9.
- 21 Vinson 1987: 33 ff; Sliwa 1975: 21; Haldane 1993: 47 ff.
- 22 "Dispute Between a Man and His *Ba*," (Dynasty XII; Lichtheim 1973-80.1: 166). Fishing was also dangerous work. Among the woes of the fishermen scribes mention the threat of crocodiles ("Satire of the Trades," Middle Kingdom, Lichtheim 1973-80.1: 189) and drowning (P. Anastasi II, 7,6, Dynasty XIX-XX; Caminos 1954: 51). But this did not stop the nobleman from enjoying fishing with a rod in his own pool (Brewer and Friedman 1989: 30 fig. 2.15).
- 23 Brewer and Friedman 1989: 24; Säve-Söderbergh 1953.
- 24 Brewer and Friedman 1989: 21-46.
- 25 O. Gardiner 86 (Dynasty XIX; Wente 1990: 119).
- 26 P. Anastasi IV, 3,9-10 (Dynasty XIX; Caminos 1954: 138).
- 27 For a discussion of fish in the Egyptian diet, see Brewer and Friedman 1989: 5-19, especially 17-19 for the alleged taboo against eating fish.
- 28 *Kr*-boats (P. Leyden 348, verso 8,4, Dynasty XIX; Caminos 1954: 492).
- 29 For a chariot aboard a presumably ordinary ferry, see the New Kingdom tale of "The Doomed Prince" (Lichtheim 1973-80.2: 200-01).
- 30 P. Anastasi IV 7,4-6 (Dynasty XIX-XX; Caminos 1954: 155); cf. P. Koller 3,6 (Dynasty XIX-XX; Caminos 1954: 438) for Nubian cattle-ferries.
- 31 E.g., P. Anastasi IV 7,1 (Dynasty XIX-XX; Caminos 1954: 155); cf. Castle 1992: 240-41.
- 32 Castle 1992: 242-43.

- 33 P. Lansing 12,4-5, 13a,4-5 (Dynasty XX, Caminos 1954: 412-13).
- 34 Castle 1992: 240-244, Vinson 1996: 132-34.
- 35 Glanville 1931-32, Janssen 1961, Simpson 1965.
- 36 Castle 1992: 248-49. For the penalties exacted from officials who interfered with the boat of a "poor man," see the Decree of Horemheb (Dynasty XVIII; Breasted 1906.3: 26 §§51-53). See also Vinson 1996: 131.
- 37 Stela of Senwosret IV in the Wadi Hammamat (Lichtheim 1973-80.1: 115). The stone measured 64 cubic cubits, or more than nine cubic meters, and would have weighed approximately 24,300 kilograms. In the Middle Kingdom "Tale of the Shipwrecked Sailor," the doomed vessel, sailing from the quarries in the Sinai, has a crew of 120 (Lichtheim 1973-80.1: 212).
- 38 Redford 1992: 151-53.
- 39 Breasted 1906.2: 137 §327.
- 40 See Wachsmann 1998: 303-14.
- 41 Breasted 1906.4: 66 §146.
- 42 Breasted 1906.1: 209-210 §§429-32, Haldane 1993: 256, Wachsmann 1998: 238-39.
- 43 Hornell 1946: 217, Brander 1966: 169-71 (photograph), Vinson 1996: 39.
- 44 Boats of Akhenaten and Nefertiti (Dynasty XVIII): Davies 1908: pl. V; Cooney 1965: 81-82 nos. 50, 51, 51a.
- 45 Kozloff 1983.
- 46 Säve-Söderbergh 1946: 33 ff. A scribe pleads that his colleague Tjaroy, who is on campaign in Nubia, should "Stay put in this boat, protecting. . . (himself) against arrows, spears, and sto[nes]" (Dynasty XX, Renaissance; Wente 1990: 197).
- 47 Lichtheim 1973-80.2: 12. Breasted 1906.2: 7 §9 reads "one fought on the canal."
- 48 Lichtheim 1973-80.3: 70.



- 49 Lichtheim 1973-80.3: 76.
- 50 Nelson 1943; Artzy 1987; Wachsmann 1981; 1982; 1998: 163-75, 317-19.
- 51 For the relationship between boat crews and soldiers, see Säve-Söderbergh 1946: 71 ff. and Vinson 1996: 191-94.
- 52 P. Bologna 1094 11,8 (Dynasty XIX; Caminos 1954: 30).
- 53 "Instruction of Amonopet" (Dynasty XIX-XX; Lichtheim 1973-80.2: 162).
- 54 P. Bologna 1094 11,7-8 (Dynasty XIX?; Caminos 1954: 30).
- 55 "Instruction of Amonopet" (Dynasty XIX-XX; Lichtheim 1973-80.2: 161).
- 56 "Instruction of Amonopet" (Dynasty XIX-XX; Lichtheim 1973-80.2: 161), Vinson 1996: 195-97.
- 57 Goedicke 1975: 75.
- 58 Nims 1969: 70. Spencer (1984: 116) reads "electrum" for "gold."
- 59 Breasted 1906.2: 120 §209.
- 60 Miosi 1975: 15.
- 61 Budge 1923: 429-38.
- 62 CT 182 (Faulkner 1973: 153); CT 214 (Faulkner 1973: 171); CT 343 (Faulkner 1973: 277); CT 344 (Faulkner 1973: 279); CT 395-401 (Faulkner 1977: 20-45; BD 98-100 (Allen 1974: 78-82).
- 63 Haldane 1983, Haldane 1994.
- 64 Lipke 1984.
- 65 The Late Period Mataria boat is a possible exception; the circumstances of its deposit have not, to my knowledge, been remarked upon in publication. See Haldane 1993: 240-49.
- 66 Vinson 1987: 39-81, Wachsmann 1998: 218-19.

- <sup>67</sup> Haldane 1993: 78-88.
- <sup>68</sup> Haldane 1993: 78, 80 fig. 4-2.
- <sup>69</sup> Haldane 1993: 82.
- <sup>70</sup> Saad 1969: 70-71, pl. 105-08. Artifacts from the site, but perhaps not the boats, are being reexamined by the Australian Centre for Egyptology (Peter May, personal communication).
- <sup>71</sup> Wachsmann 1998: 219.
- <sup>72</sup> Jenkins 1980, Lipke 1984, Haldane 1993: 89-131, Steffy 1994: 23-33.
- <sup>73</sup> Steffy 1994: 28.
- <sup>74</sup> Haldane 1993: 158-94.
- <sup>75</sup> Haldane 1993: 182 fig. 8-18, 188 fig. 8-20.
- <sup>76</sup> Reisner 1913: 83-87, Haldane 1984, Patch and Haldane 1990, Haldane 1993: 202-39.
- <sup>77</sup> Sayed 1980.
- <sup>78</sup> Haldane 1993: 240-49.

## CHAPTER II

### ARTISTS AND THEIR TECHNIQUES

[This spell is] to be said over the bark of Re, inscribed with Nubian pigment in the clean place. . .

Book of the Dead, Chapter 130<sup>1</sup>

#### ARTISTS

In one of the ironies of Egyptian art, artists themselves seldom appear in the work they produced. The artist did not hesitate to immortalize scribes or carpenters (fig. 1-6) or metalsmiths or potters, but seldom do we see an image of anyone painting or drawing. From tombs we have his tools and his works, and it is primarily through these that we must interpret how the ancient Egyptian artist lived and created the paintings and reliefs the iconographer relies upon to reconstruct ancient watercraft.

The usual term for one who drew or painted was *ss kdwt*,<sup>2</sup> literally "outline-scribe" or "draftsman." A sculptor was *snb*<sup>3</sup> or "(he who) makes (it) to live." They were skilled, paid craftsmen, working collectively and anonymously, although occasionally an artist might rise to some prominence, such as Bak, a court-sculptor of Akhenaten (Dynasty XVIII).<sup>4</sup> Despite the popular view of Egyptian painting as rigid and devoid of room for artistic originality, the hand of even anonymous individual artists can be detected.<sup>5</sup>

Painting was not a skill confined to the artisan classes. A scene in the tomb of Khentika at Saqqara, and another in the tomb of Mereruka (both dating to Dynasty VI) illustrate the tomb-owners painting figures representing the three seasons.<sup>6</sup> Two of Akhenaten's daughters owned painter's palettes.<sup>7</sup> However, except for graffiti, which was not examined for this study, the overwhelming majority of works was created by professionals for specific, usually funerary, contexts.

## TECHNIQUES OF PAINTING

The basic tool of the draftsman's kit was the brush. The commonest sort was made from twigs or reeds (e.g., *Juncus maritimus*), the tip of which was chewed or beaten to create the brush itself.<sup>8</sup> Beaten palm ribs made a coarser, "stumpy" brush. Vegetable fibers could also be bundled and wrapped with string or a palm leaf. Brushes with handles of a separate material, like those used by modern painters, were not known.<sup>9</sup> Specimens still clogged with paint indicate that the draftsman used a different brush for each color.<sup>10</sup> Brushes were kept together either in a case or simply bundled with string.<sup>11</sup>

A draftsman's kit generally resembled a scribe's kit, but his case contained a greater number of paint receptacles on account of his more diverse color palette. Most of his pigments were derived from mineral sources:

- Black: carbon-based, such as soot, lamp black, bone black or charcoal;<sup>12</sup> occasionally oxide of manganese<sup>13</sup> and perhaps iron oxides.<sup>14</sup>
- White: calcium carbonate (chalk); calcium sulfate (gypsum).<sup>15</sup>
- Red: iron oxide (ochre).<sup>16</sup>
- Blue: carbonate of copper (azurite, chessylite); more often calcium-copper silicate, an artificial compound known as "Egyptian blue." This may deteriorate to a black or dark brown color.<sup>17</sup>
- Yellow: hydrated oxide of iron (yellow ochre); sulfides of arsenic (orpiment, realgar); vegetable-based pigments.<sup>18</sup>
- Green: powdered malachite; calcium-copper silicate, sometimes applied over yellow (see Blue, above).<sup>19</sup>
- Brown: iron oxide (ochre); or, by applying red over black (Dynasty IV), or varnish over yellow ochre (Dynasty XI).<sup>20</sup>
- Pink: ochre and gypsum; madder over gypsum.<sup>21</sup>

The draftsman could employ other colors, such as gray and orange, as well as pink and brown, by layering one pigment over another.<sup>22</sup>

To prepare the paint, pigment was first pulverized on a grinding palette.<sup>23</sup> Because of their various natures, these pigments required different vehicles in order to adhere to the surface being decorated. Both ochres and soot, for example, may be applied dry to a plaster-coated surface, but ochres generally take best if wet.<sup>24</sup> Size (gelatin), gum and albumin<sup>25</sup> are necessary for the other mineral pigments, such as powdered malachite and the calcium-copper silicate frits used for green and blue. Beeswax was sometimes used as a binder (as in the "Faiyum portraits" of the Roman period), but more often as a sealant.<sup>26</sup> The Egyptians did not use oil as a vehicle nor apply pigments directly to wet plaster (fresco). There is a published example of a painting in which those colors worked first were applied prior to the plaster having fully dried, creating, in effect, a fresco. This was a matter of haste rather than chosen technique, however. The paint reacted chemically with the wet plaster, resulting in poor preservation of these areas, whereas those colors applied after the plaster had dried remain in a far better state.<sup>27</sup>

Shells,<sup>28</sup> ordinary bowls,<sup>29</sup> specialized palettes,<sup>30</sup> or depressions in the brush case itself<sup>31</sup> served as receptacles for the paint. Unlike a brush, which was reserved for a particular color, several pigments might be mixed in the same bowl.<sup>32</sup>

Most of the paintings considered in this study were executed on plaster. Plaster may consist of clay (as in the earliest examples of Egyptian mural-painting, but also at the late Dynasty XVIII site at Amarna), or, more often, of gypsum (calcium sulfate). Plaster varied in color from gray in the Old Kingdom to pure white in the New Kingdom.<sup>33</sup> Gypsum plaster was applied over other material such as limestone that was to be painted,<sup>34</sup> presumably to improve adhesion of the paint and to fill holes and other imperfections in the stone.<sup>35</sup> The plaster found on wooden objects is usually whiting-based,<sup>36</sup> and many wooden objects, particularly those of the better woods such as cedar, were not plastered at all.<sup>37</sup> Plaster was applied by a float, consisting of a board with a flat side and a handle. Two kinds are known, one with a thick board for the initial application, the other, with a thin board, used in the finishing process.<sup>38</sup>

Once the surface was prepared, the draftsman created boundary lines (to define the limits of the decoration), guidelines (to define the registers within scenes) and, usually,<sup>39</sup> grids (to define the

proportions of objects within the scenes).<sup>40</sup> During the Old Kingdom, draftsmen used a simple grid system for each figure, consisting of a vertical line defining the middle, and with a series of dots (connected by horizontal lines) indicating the hair line, base of the neck, armpits, mid-waist, bottom of the buttocks, top of the knees, and baseline.<sup>41</sup> Later draftsmen used more elaborate grids. The artist created the horizontal lines by snapping against the wall a thin rope or string that had been soaked in red paint. The painter's kit found in the Theban tomb of Mentuhirkopeshef (TT 20) was bound with string stained with red paint from such use.<sup>42</sup> To accurately set the vertical lines, a plumb-bob was employed.<sup>43</sup> The resulting grids guided the enlargement of the preliminary sketches or pattern-book with which he worked.

Examples of such reduced-scale preparatory drawings have been found. These are usually marked off with a grid, whole or in part. Some evidently served as student exercises. A well-known example, found in a Theban tomb and now in the British Museum, shows repeated attempts to draw the hieroglyph of an arm (fig. 2-1). It shows, too, a gridded image of Thutmose III, in firm outline but with little detail aside from lines indicating the layers of tight curls in his wig and the banding of his beard. Detail in the preparatory sketches for larger scenes must have been even more minimal. The completed scenes themselves, however, might contain detail a few millimeters in size. How details were composed is uncertain. Whether they were applied "freehand" directly on the wall or were specified by other key drawings is not known.<sup>44</sup>

Although the use of preliminary sketches is undoubted, the existence of pattern-books is much debated. The argument cannot be better summarized than S. Wachsmann's overview,<sup>45</sup> to which the following brief discussion is deeply indebted.

Repetition of certain subjects in the tombs of a given region and period suggests, even necessitates, a common origin. Some believe the common origin to have been in the form of a pattern book. However, as J. Baines wrote, "the lack of frequent and precise repetition in the content of detail of scenes where this repetition of themes occurs argues against the usage of such."<sup>46</sup> He echoes the earlier sentiments of J. Vercoutter, who likewise expected to encounter "*représentations identiques*" had pattern books, in fact, been used.<sup>47</sup> Paintings in earlier temples<sup>48</sup> or tombs, particularly those "created by masters of their craft,"<sup>49</sup> served as the common models for other draftsmen. This presumes, of course,

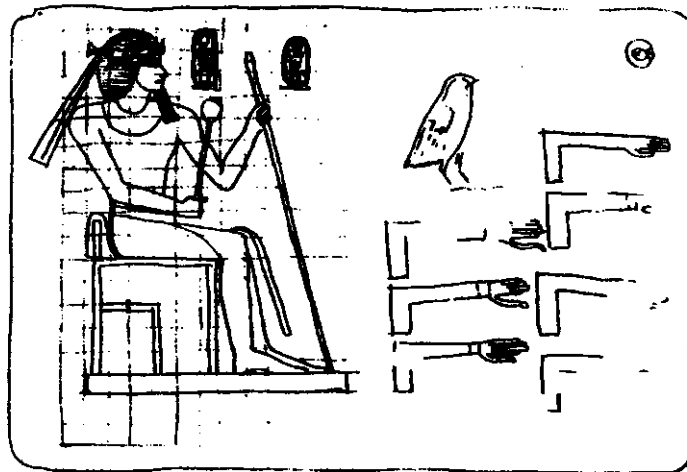


Fig. 2-1. Drawing board. Wood coated with gesso (BM 5601). Theban Necropolis. Dynasty XVIII (Thutmose III). After Baines 1986: 16 fig. 12 and Harris 1966: 14 fig. 6.

that other draftsmen had access to the earlier works, which Vercoutter maintained they would have, in the course of official duties.<sup>50</sup>

On this point, A. Furumark explicitly disagrees, offering that pattern-books perpetuated the types.<sup>51</sup> Earlier, J. Capart mentions "books of models in which the proportions were accurately indicated."<sup>52</sup> Without hesitation, A. Mekhitarian writes of pattern-books drawn upon papyrus.<sup>53</sup> What is the evidence for such pattern-books?

In his analysis of a "stock scene" (a bowyer's workshop) from three Theban tombs (TT 39, TT 79, TT 95), Wachsmann notes 29 elements shared by at least two of the three tombs. Only ten of these elements are found in all three tombs. Both TT 39 and TT 95 lack seven (but not the same seven); TT 79 lacks five. Earliest of these tombs is TT 39. It could not have served as the model for the draftsmen who painted TT 79 or TT 95, both of which contain elements absent from TT 39.<sup>54</sup> Also notable between TT 39 and TT 79 is the alteration in the kind of ibex horn in these scenes: in TT 39, the horn is that of an "elderly male," while in TT 79 it is that of a "young male."<sup>55</sup>

Wachsmann concludes that "the scenes in both tombs must have derived from a common source."<sup>56</sup> This could have been yet another tomb-painting, now lost.<sup>57</sup> However, the existence of scenes such as the smithy in TT 100 which, although containing all scene elements present in other tombs, *post-date* these other tombs, makes it likely that all of these scenes are, in fact, reflecting a common source independent of the tombs; namely, a pattern-book. The nature of these pattern-books -- how they were arranged, in what medium or form they were created -- can only be hypothesized. Mekhitarian believed they were of papyrus,<sup>58</sup> but they may have been sets of boards such as that in fig. 2-1.<sup>59</sup> It should be noted that the opponents of pattern-books view these gridded drawings as preparatory or preliminary sketches, studies of other artworks, rather than inferring from them the existence of master pattern-books that were used repeatedly at different times in different places.<sup>60</sup>

The use of pattern-books does not preclude, of course, scenes drawn from life or, indeed, from other paintings. There are scenes that appear unique to a particular tomb, recounting some particular event that the tomb-owner wished to record. When Tutankhamen's Nubian viceroy, Huy, commissioned the decoration of his tomb, one of the scenes illustrates portage along a slipway, presumably to bypass the



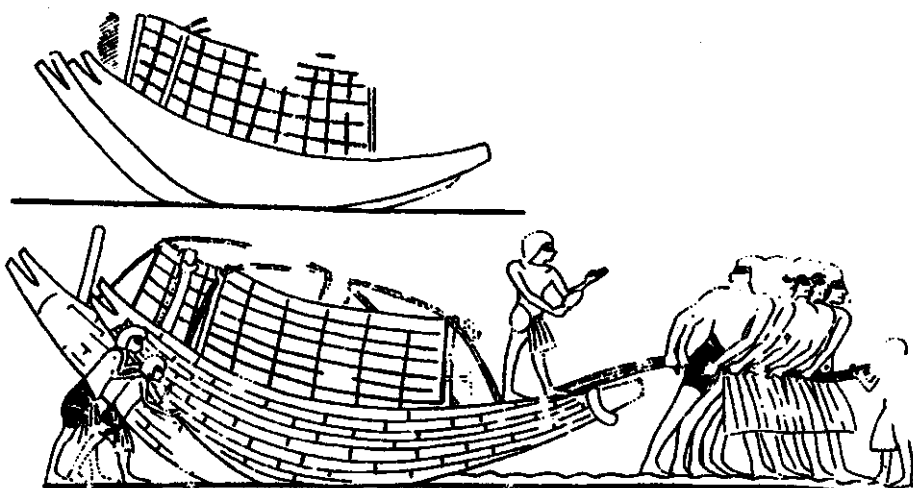


Fig. 2-2. Boats hauled along a slipway. Painting. TT 40. Dynasty XVIII (Tutankhamen). From Davies 1926: pl. XVIII.

second cataract at Mirgassa (fig. 2-2), which he encountered en route to his appointment. Artists who accompanied Hatshepsut's expedition to Punt recorded a variety of sea-creatures encountered en route.<sup>61</sup> The royal tomb artisans who lived at Deir el Medina sketched scenes with all the appearance of on-the-spot recordings of genre scenes and even political commentary, using limestone and pottery ostraca as their "sketchbooks."<sup>62</sup> Norman de G. Davies noted that a scene drawn in a Dynasty VI tomb at Deir el-Gebrawi reappeared in another built nearby, but centuries later.<sup>63</sup> Images of animals in the tomb of Kenamun (TT 93) were apparently so well regarded that they were gridded by later draftsmen, presumably for copying.<sup>64</sup>

Regardless of the source of his design, having prepared the wall with the necessary grid system, the draftsman then outlined the figures in red,<sup>65</sup> correcting as necessary. If changes were extensive, a new layer of plaster was applied and the outlines redrawn.<sup>66</sup> These drawings could be of stunning skill and detail, sufficient to serve as the finished product if need be, even in royal tombs.<sup>67</sup> The draftsman might apply several layers of paint to achieve the necessary color and detail; once again, necessary corrections were made by the application of yet more plaster.<sup>68</sup>

This procedure varied in time and place and with the materials with which the draftsman had to work. For example, in the private tombs at Thebes, once the draftsman had made the initial outlines of the figures, he then painted the background. Figures were painted next, and usually given finishing outlines.<sup>69</sup>

Shading to indicate the three-dimensional qualities of an object did not form part of the Egyptian painter's repertoire. Color was applied to fill an area rather than to produce the illusion of three dimensions, although brush-strokes remain more or less visible. Layers of additional color, lines, stippling and other brush-strokes were added to indicate fur and feathers, the scales of fish, the melting wax cones worn during banquets, woodgrain, and so on. Particular care was taken to portray the gauzy quality of certain linen garments popular during the New Kingdom.<sup>70</sup>

For drawing and painting finished works on papyrus,<sup>71</sup> the draftsman dispensed with the grid, and his use of color was not usually so varied as when working on plaster, although some of the best examples of the illuminated funerary papyri are scarcely distinguishable from good wall-paintings.<sup>72</sup> The

draftsmen who produced many of the illuminated papyri were superbly confident in their use of line. The width of a papyrus sheet or roll, which cannot exceed 47 centimeters,<sup>73</sup> naturally limited the draftsman to miniatures. The draftsman could correct errors by washing the offending lines with water, or perhaps by licking them away with his tongue. More extensive errors had to be corrected by excising the ruined portion of papyrus and patching it with fresh.<sup>74</sup> In the creation of illuminated funerary papyri, such as the Book of the Dead, the Book of Breathings, and the Book of What Is In the Netherworld, the scribe first wrote the text, leaving room for vignettes to be drawn by the draftsman (fig. 1-7). This further confined the work of the draftsman, who sometimes placed a scene in the wrong lacuna.<sup>75</sup>

## TECHNIQUES OF PAINTED RELIEF

J. Baines comments that "[all] Egyptian pure painting was inferior in painstakingness and durability to painted relief."<sup>76</sup> While the former is a matter open to debate, there is no question with regard to the superior durability of relief: chiseled outlines endure long after the elements have worn away the draftsman's paint.

Painted relief began in much the same way as pure painting. It was executed on either stone or wood. Having first been smoothed, which might in the case of areas made up of blocks involve plastering gaps between the stones,<sup>77</sup> the surface to be worked was marked out with a grid system. The draftsman drew figures on the surface, but rather than the painter going to work next, the sculptor worked over the drawings with a chisel.<sup>78</sup> Outlines were carved first, corrections made as necessary, then modeling and finer details were added.<sup>79</sup> This work need not have been done *in situ*; because of the controls enforced by the grid system, two sculptors working apart could create adjoining pieces of the same scene.<sup>80</sup>

Egyptian sculptors produced three kinds of relief: incised, bas (low) and en crux (sunk). Incised relief is simply cut into the surface. In bas relief, the most popular for tomb scenes, the figures stand out from a flat background. In relief en crux, developed during the Middle Kingdom,<sup>81</sup> the figures are recessed into the surface and modeled. Because it withstands the elements better than bas relief, relief en crux was very popular for the decoration of temple walls.<sup>82</sup> More than one form of relief may appear on the same

object.<sup>83</sup>

Once the sculptors had finished, draftsmen returned to "fill in" the work, in the words of a Dynasty XX document.<sup>84</sup> The painters added not only color but additional details not suggested by the relief itself.<sup>85</sup> These processes went on concurrently: thus we have examples of unfinished reliefs with some portions fully carved, some roughed out with the chisel, and others still in painted outline.<sup>86</sup>

A rare variation of painted relief is incrustation. This technique involved filling incised relief in limestone with colored pastes. It was used for a short time during Dynasty IV.<sup>87</sup>

## TECHNIQUES OF SCULPTURE IN STONE AND WOOD

The earliest Egyptian sculptures were produced with stone tools, which were later employed side-by-side with tools of copper, bronze and iron.<sup>88</sup> During the Predynastic Period, the Egyptians had raised the craft of carving hard stone vessels to a high art, giving them ample technical skill for the carving of larger works from such hard material as basalt, granite, schist, quartzite and diorite (fig. 1-1).

Like draftsmen, sculptors worked from gridded patterns drawn on papyrus. One example consists of the front, top and side views of a sphinx,<sup>89</sup> another consists of two views of a shrine.<sup>90</sup> These drawings would have been transferred to the faces of the stone blocks to be carved. Instructive pieces, deliberately left unfinished to demonstrate the stages of carving, are known.<sup>91</sup> As draftsmen copied prized paintings, sculptors likewise made three-dimensional studies of master works.<sup>92</sup> Grid lines indicated the proper proportions for the subject, and these were renewed as necessary through the various stages of carving.<sup>93</sup> The figures were roughed out into planes,<sup>94</sup> these being subsequently smoothed.<sup>95</sup> Details were added last, and, the surface having been prepared and smoothed with a sand abrasive,<sup>96</sup> the sculpture was commonly painted<sup>97</sup> or fitted with inlay.<sup>98</sup> If the work broke while in progress, the pieces could be rejoined with dowels or stone insets.<sup>99</sup>

The woodcarver had at his disposal a range of adzes, chisels and drills, as well as axes and saws.<sup>100</sup> Smaller, uncomplicated objects might be made of a single block of wood; larger works were

made of several pieces and variously joined by mortise-and-tenon or glue.<sup>101</sup> Before being painted or gilt, a wooden statue was typically coated in gesso, which filled any gaps between unsightly joins.<sup>102</sup>

As with relief, paint provided a sculpture with details not rendered in carving.

## CONVENTIONS OF REPRESENTING FIGURES AND OBJECTS IN TWO DIMENSIONS

Egyptian art is one of conception rather than perception: that is, the Egyptian draftsman painted what he knew, rather than what he saw. Perspective and foreshortening were unknown to him. While specific topics will be discussed as relevant, the following will serve as a brief introduction to the conventions and their resultant difficulties. The reader is advised to investigate H. Schäfer (1986) for a full discussion.

The human figure (fig. 2-3) is so familiar that it will serve as a useful model to introduce some of the conventions of Egyptian art, as they might seem peculiar to those brought up in the Western perceptual tradition, and offer *caveats* for interpretation.

The head appears in profile and is frequently superbly modeled in bas relief. The eye and brow, however, are painted as they would be seen frontally; they are indistinguishable from the eyes of statues and rare frontal paintings of faces. If the figure is wearing a headdress, such as a crown, that may be shown either frontally (fig. 2-3) or in profile (fig. 1-1), however its features are best defined. In fig. 2-3, for example, the portion of the crown covering the back of the head is in profile, but the upper part is viewed from the front, as are the horns, double-uraeus and sun-disk; these ornaments would, in an actual crown, be centered on her forehead, but here they are placed over her (left) eye.

Shoulders too are shown in frontal view, although there are many exceptions to this rule, particularly for minor figures such as workmen (figs. 1-1, 1-3, 1-6, 1-7, 1-8, 1-12, 1-13, 1-15, 2-2). The chest appears also in profile, although in some figures one of the two breasts will appear frontally; in women, this curious view may result in one breast sticking out from the straps of her dress, although in statuary, straps cover both breasts. Arms are essentially in profile, frequently bent in curious ways to indicate actions that would violate the plane of the drawing surface. Hands are seen either from the back, palm, or edge. Stomach, hips, legs and feet appear in profile. In most cases, only the big toe appears on



Fig. 2-3. Hatshepsut running with the *hp*-sign and steering oar. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut). After Naville and Clarke 1894-1908.4: pl. XCIII.



Fig. 2-4. Offerings of bread, meat, &c. laid on a mat. Painting. TT 93. Dynasty XVIII (Amenhotep II). After Davies 1973: pl. XL.

each foot, and frequently the entire sole of the foot is arched: only ball and heel remain in contact with the ground, creating the illusion of exquisite grace, but an unnatural construction (figs. 1-8, 2-1).

Each figure, and each portion of the figure, is drawn in its most representative state. Objects lying flat upon the ground may be "turned on one side" to display what they are,<sup>103</sup> like the coils of rope in fig. 1-4. What in many scenes appears to be a low dais is nothing more than a woven mat, presented in a kind of truncated top view (fig. 2-4). The yard and boom of a sail are presented frontally (figs. 1-11, 1-16, 1-21, 1-22).

As the relationships among parts of an object are so complex, so may be the relationship among separate objects.<sup>104</sup>

The draftsman attempted to obscure figures and objects as little as possible. He might alter the scale of an object or figure to illustrate more of something behind it, such as the miniature carpenter working on the shrine of the model boat in fig. 1-6.<sup>105</sup> A man's bident spear passes not in front of his body, as one might expect, but behind (fig. 1-8; cf. fig. 1-3). Similarly, one object within another may be portrayed on top of it. Offerings on tables and mats were spread out, rather than precariously piled as a painting suggests (fig. 2-4).<sup>106</sup>

By the layering of figures (i.e., the overlapping repeat of similar figures) the Egyptian draftsman could suggest a line of figures perpendicular to the surface he was painting. The figures may be compacted together, so that subsequent figures are merely suggested by repeating the outline of the first (amphoras, fig. 1-15), or spread out to create a sense of rhythm (cattle, fig. 1-5). Most layering is lateral. During the Middle Kingdom, draftsmen began to use vertical layering as well, and it became popular during the New Kingdom.<sup>107</sup> These points will be discussed further in chapter V.

## NOTES

- <sup>1</sup> Allen 1974: 107.
- <sup>2</sup> Faulkner 1962: 282.
- <sup>3</sup> Faulkner 1962: 214.
- <sup>4</sup> Desroches-Noblecourt 1976: 290.
- <sup>5</sup> Mekhitarian 1978: 22; Harris 1966: 10, Wilkinson 1979: 20, Epigraphic Survey 1930: 9-10. Such individuality is not always a mark of good quality. One man decorating the tomb of Suemmiwet (TT 92) painted over the eye of the goddess Hathor, earning him from Egyptologists the nickname "myopic yellow painter" (Bryan 1995: 15). Winlock (1955: 73-78) perceived the hands of different craftsmen, or workshops, in the models of Meketre.
- <sup>6</sup> James 1986: 9-10, Brovarski, Doll and Freed 1982: 288.
- <sup>7</sup> Brovarski, Doll and Freed 1982: 288.
- <sup>8</sup> Černý 1985: 12, James 1986: 10, Lucas 1989: 134, Wilkinson 1979: 17-18.
- <sup>9</sup> Lucas 1989: 133.
- <sup>10</sup> Lucas 1989: 134, James 1986: 11.
- <sup>11</sup> Polz (1997: 35) suggests that the Egyptians might have considered a kit used to paint a funerary stela to be "sacrosanct" and subsequently left it behind at the site.
- <sup>12</sup> Lucas 1989: 339-40, James 1986: 11, Henderson 1989: 29-30.
- <sup>13</sup> Lucas 1989: 340.
- <sup>14</sup> Baines 1989: 21, Henderson 1989: 29, Baines, Henderson and Middleton 1990: 207.
- <sup>15</sup> Lucas 1989: 348-349, Henderson 1989: 30.
- <sup>16</sup> Lucas 1989: 346-348.
- <sup>17</sup> Lucas 1989: 340-344, James 1986: 11.



- 18 Lucas 1989: 349-351, James 1986: 12, Baines 1989: 24.
- 19 Lucas 1989: 344-345, James 1986: 12.
- 20 Lucas 1989: 344.
- 21 Lucas 1989: 346.
- 22 Lucas 1989: 346.
- 23 Brovarski, Doll and Freed 1982: 285 no. 393.
- 24 Lucas 1989: 351.
- 25 Due to the "dryness of the climate and the heat," James (1986: 12) disagrees with Lucas (1989: 352) in regard to the use of albumin as a paint vehicle.
- 26 Lucas 1989: 351-53, James 1986: 12, Baines 1989: 22, Wilkinson 1979: 25, Mekhitarian 1978: 34 (referred to here as "varnish"). Wilkinson (1979: 25) reports that, to the detriment of the paintings, resin was sometimes used as a final coat.
- 27 Baines 1989: 14, 21, 22. Cf. Mekhitarian's comments on the impermanent nature of black pigments (1978: 34).
- 28 Černý 1985: 13.
- 29 Polz 1997: 34.
- 30 Brovarski, Doll and Freed 1982: 287-289 nos. 398 (boxwood), 399 (limestone).
- 31 Černý 1985: 13, Brovarski, Doll and Freed 1982: 284-85 no. 392.
- 32 Polz 1997: 34-35. According to Wilkinson (1979: 17), a separate bowl was reserved for each color.
- 33 James 1986: 13.
- 34 Mekhitarian 1978: 10, 24, 26, Lucas 1989: 77, James 1986: 13. But not all stone was so treated (Baines 1989: 16).

- 35 Mekhitarian 1978: 28. Mud plaster was also used for this purpose.
- 36 Lucas 1989: 353-54.
- 37 Baines 1986: 67.
- 38 Brovarski, Doll and Freed 1982: 56-57 no. 28.
- 39 Some scenes were apparently prepared without grids. See, for example, Harris 1966: 32 fig. 8.
- 40 The nature of these proportions -- the "Egyptian canon" -- is a matter of considerable debate and exceeds the scope of this study. See: Robins 1994a, Schäfer 1986: 333-34.
- 41 Schäfer 1986: 326, 327 fig. 323, Robins 1994b: 64-69.
- 42 Baines 1986: 11 fig. 9.
- 43 Baines 1989: 17.
- 44 Baines 1989: 15.
- 45 Wachsmann 1987: 12-17.
- 46 Baines 1986: 9.
- 47 Vercoutter 1956: 197, Wachsmann 1987: 15.
- 48 Davies 1930: 32, Wachsmann 1987: 13, Baines 1986: 43.
- 49 Kantor 1947: 42, Wachsmann 1987: 15.
- 50 Vercoutter 1956: 198-99, Wachsmann 1987: 15. Cf. Baines 1986: 43.
- 51 Furumark 1950: 233 n. 8, Wachsmann 1987: 14.
- 52 Capart n.d.: 157. Cf. Wachsmann 1987: 14.
- 53 Mekhitarian 1978: 20-21, 58.

- 54 Wachsmann 1987: 17-23.
- 55 Wachsmann 1987: 23.
- 56 *Ibid.*
- 57 Vercoutter 1956: 410-412, Wachsmann 1987: 23.
- 58 Mekhitarian 1978: 20-21, 58.
- 59 Wachsmann 1987: 24-25.
- 60 Baines 1986: 43.
- 61 Danelius and Steinitz 1967, Wachsmann 1998: 19-22.
- 62 Pomerantseva 1992.
- 63 Davies 1902.2: 1, 36-37, pls. XIII-XVI, XXIV-XXV. Wachsmann (1987: 25-26) discusses this and several other examples.
- 64 Wilkinson 1979: 21-22 fig. 23, Davies and Gardiner 1936.1: pl. XXX, XXXII.
- 65 Wilkinson 1979: 20-21.
- 66 Commonly, these corrections are made in black (Mekhitarian 1978: 30).
- 67 Cf. Baines 1986: 40-42.
- 68 Baines 1989: 18.
- 69 Mekhitarian 1978: 30, Wilkinson 1979: 22.
- 70 Examples abound in Davies and Gardiner 1936, Baines 1989, Harris 1966 and Mekhitarian 1978.
- 71 For the preparation of papyrus, see Černý 1985, Lucas 1989: 137-40.
- 72 Cf., e.g., the New Kingdom papyri of Hunefer (BM 9901; Baines 1986: 54-55 fig. 59-60) and Ani (BM 10470; Baines 1986: 56 fig. 62).

<sup>73</sup> See Černý 1985: 14-17 for a discussion of the change in size of typical papyrus sheets from the Old to the New Kingdom.

<sup>74</sup> Černý 1985: 23-24.

<sup>75</sup> Černý 1985: 28, Baines 1986: 51.

<sup>76</sup> Baines 1989: 15. Cf. Mekhitarian's comment "the color (on the Theban reliefs of Dynasty XVIII)... was superfluous" (1978: 24).

<sup>77</sup> Harris 1966: 17. In some cases, the carving was executed in plaster, such as in the tomb of Nefertari in the Valley of the Queens (Dynasty XX, Rameses II; Harris 1966: 18, pl. 48).

<sup>78</sup> Harris 1966: 18.

<sup>79</sup> Harris 1966: 18.

<sup>80</sup> Schäfer 1986: 331.

<sup>81</sup> Harris 1966: 12.

<sup>82</sup> Harris 1966: 17.

<sup>83</sup> For incised and bas relief, see for example Harris 1966: pls. 27, 40.

<sup>84</sup> James 1986: 8.

<sup>85</sup> Mekhitarian 1978: 11, 13.

<sup>86</sup> Harris 1966: fig. 8. Other unfinished reliefs: Harris 1966: 14 figs. 7-9.

<sup>87</sup> Mekhitarian 1978: 23, Baines and Málek 1984: 56.

<sup>88</sup> Aldred 1980: 22-23, James and Davies 1983: 17, Harris 1966: 33.

<sup>89</sup> Schäfer 1986: 327-330 figs. 325, 326.

<sup>90</sup> Clarke and Engelbach 1990: 47 fig. 48.

<sup>91</sup> Schäfer 1986: 327-28.

<sup>92</sup> Harris 1966: 15 figs. 11, 32. The famous one-eyed, painted head of Nefertiti in Berlin is likely such a master work (Aldred 1980: 182-83).

<sup>93</sup> Harris 1966: 15 fig. 10, Schäfer 1986: 330-31.

<sup>94</sup> Harris 1966: fig. 12.

<sup>95</sup> Harris 1966: fig. 13.

<sup>96</sup> James and Davies 1983: 17.

<sup>97</sup> Harris 1966: 27-28, James and Davies 1983: 17.

<sup>98</sup> Harris 1966: 32. For a discussion of inlaid eyes, see Lucas 1989: 98-127.

<sup>99</sup> Aldred 1980: 24.

<sup>100</sup> Sliwa 1975: 49-55, Aldred 1980: 23-24.

<sup>101</sup> Aldred 1980: 25. For a full discussion of ancient Egyptian joinery, see Sliwa 1975: 45-65.

<sup>102</sup> Aldred 1980: 24, 25.

<sup>103</sup> Schäfer 1986: 146, 166-69.

<sup>104</sup> See Schäfer 1986: 159 ff.

<sup>105</sup> For a full discussion of the topic of scale, see Schäfer 1986: 230-45.

<sup>106</sup> Schäfer 1986: 166-72.

<sup>107</sup> Schäfer 1986: 177-89.

## CHAPTER III

### EPIGRAPHY AND PUBLICATION

(Other occupations are filled with toil.)

The scribe, he alone records the output of all of them!

P. Lansing<sup>1</sup>

#### METHODS OF EPIGRAPHY

Seven basic methods have been employed in the recording of two-dimensional artwork and text:

- Free-hand drawing (fig. 1-9). Early epigraphers such as J. G. Wilkinson made and published free-hand drawings of scenes they encountered.<sup>2</sup> As epigraphic methods improved, this technique became relegated to situations in which photography was unavailable or when the state of preservation of the painting or relief was too fragile to permit a tracing or squeeze.<sup>3</sup> For example, W. F. Petrie made freehand drawings (in the form of full-sized color copies) of paintings from the North Harem of the Great Palace at Amarna because of the "delicate state of the paintwork, which began to crumble even as he copied it."<sup>4</sup>

- Photography. Both color and black and white photography have been used to preserve the epigraphic record, with varying degrees of success. A. Mekhitarian's *Egyptian Painting* (1978, originally published as *La Peinture égyptienne*, with tipped-in plates, in 1954) is generally pointed out as a remarkable example of this genre of epigraphy, being true to the originals in detail and color, the latter being a particular challenge.<sup>5</sup> However, grainy black-and-white photographs are too often encountered in publication, all the more regrettable when no facsimile drawings of the scenes are published with them.<sup>6</sup> G. A. Reisner writes, "(Photography) can only differentiate shadows and colors. There are other things like consistency, perceptible to the eye or the touch, but practically imperceptible to the lens of the camera. Photographs of such things serve as reminders to the eye of the excavator, but are not much better than blank paper to one who has not seen the object photographed."<sup>7</sup> Photographs are also used in the production of facsimile drawings (see below).

- Squeeze. A squeeze is made by moistening a kind of filter paper (metal foil also can be used, as

can liquid latex, the latter with considerable *caveats*), which one then lays upon the relief to be copied. A brush is used to beat the paper onto the stone, embossing onto it a full-sized negative copy of the relief. When dry, the paper is removed. This technique may damage or destroy remains of paint, so must be employed with care.<sup>8</sup>

- Rubbing. Like the squeeze, a rubbing records only reliefs. The copyist overlays the scene with thin paper and rubs it with graphite, carbon paper, crayon or a mixture of hard wax and lampblack (heelball).<sup>9</sup>

- Tracing. Tracing proper is done directly upon the scene using tracing paper. Yellow candlelight is the preferred illumination for this purpose, as it better penetrates the paper than the light of an incandescent bulb.<sup>10</sup>

- Facsimile drawing (fig. 1-13). This begins as an accurate tracing, rubbing or photograph (the last printed on paper treated with a gelatin emulsion<sup>11</sup> or traced directly<sup>12</sup>) of the scene. The copyist then traces over this with pencil, ideally in the presence of the original, against which the resultant copy is repeatedly checked, under a variety of lighting conditions.<sup>13</sup> When the original traced is a photograph with gelatin emulsion, the under-image is then bleached away, leaving an accurate line drawing. In a variation of this known as the "Chicago method," the epigrapher inks the pencil drawings, and two blueprints of the resulting ink drawings are made. One is cut into collation sheets, and compared to the original scene or inscription by a group. Then corrections are made.<sup>14</sup> The process of facsimile drawing "surpasses photography in that it can clearly show even. . . elusive traces" that camera and film might miss or distort,<sup>15</sup> and remains the standard epigraphic technique today.

- Color facsimile. Often called simply a "facsimile," this begins as a tracing, but the copyist wishes to record all the details of the painted surfaces, down to the brush strokes. With graphite paper, the tracing is transferred to watercolor paper.<sup>16</sup> The actual painting is done *in situ*, namely, in the presence of the original, illumination being provided most often by mirrors angled to cast sunlight into the dark reaches of the tomb or temple.<sup>17</sup> Tempera paints are the preferred medium for color facsimiles.<sup>18</sup>

## EPIGRAPHIC ERRATA

The work of even the most masterful epigraphers is open to review and revision. A famous historical case is the publication of a banquet scene by C. R. Lepsius, whose mid-nineteenth century expedition to record the monuments of Egypt and Nubia resulted in twelve stunning volumes of epigraphy, the scope of which has not yet been matched in a single series. The figure in particular question is that of a servant girl pouring oil for her mistress (fig. 3-1.A). Unusual for an Egyptian figure, the girl is viewed from behind. Even more unusual, in Lepsius's publication, the roundness of her right shoulder overlaps her neck, resulting in the appearance of a perspective view. Examination of the painting itself reveals that this roundness of shoulder is in fact part of the line delineating the neck of her dress (fig. 3-1.B). A number of other even more startling discrepancies are apparent between the two recordings, including placement of the feet, the presence of a scented cone on the woman's wig or bowl, and the location and shape of the jar at the servant girl's feet.<sup>19</sup> A photograph of these figures appears in Mekhitarian 1978: 51.

More recently, a critique has been made of the work of Norman de Garis Davies at Deir el Gebrawi,<sup>20</sup> where he worked alone and without review. In one area in the tomb of Djau, he did not record a different background color used for part of the scene, indicated a belt where the ancient draughtsman had not, and inaccurately rendered portions of the inscriptions. However, this was early in his career and his first encounter with tomb paintings, as opposed to reliefs. His later work, and that of his wife, Nina de Garis Davies, withstand close scrutiny.

However meticulous the epigraphic process, errors may seep into publication, particularly if it is handled in its final stages by engravers or publishers who are not familiar with the material. In the illustration of a scene from TT 40 in R. Lepsius's *Denkmaeler aus Aegypten und Aethiopien* (fig. 3-2.A), the tomb-owner, Huy, stands before four registers of identical cattle-boats. However, in the 1926 publication of this tomb by Nina de G. Davies (fig. 1-12), it is evident that the boats are not identical; the steering gear is treated differently in each, the men are in different positions, and the livestock vary. Lepsius's epigrapher had recorded only the boat in the first register, leaving the lithographer to transfer it to the other three.<sup>21</sup> By the time Davies recorded this scene, squatters had considerably mutilated it. However, other epigraphers, notably G. Wilkinson, who was the first to visit the tomb (no later than





A

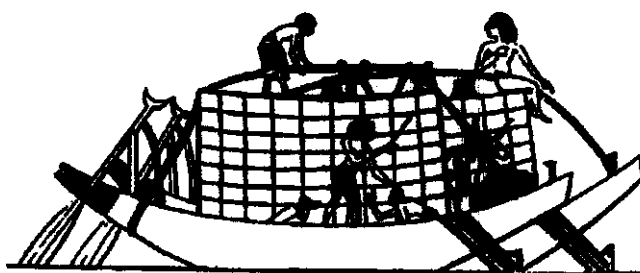


B

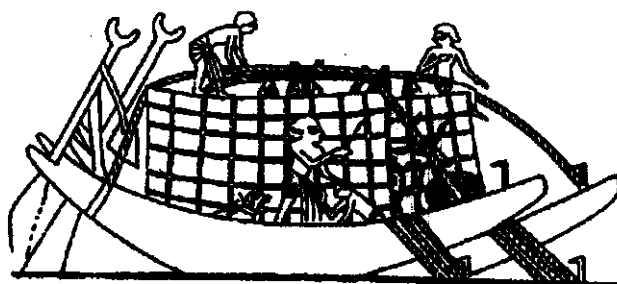
Fig. 3-1. Banquet scene. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). A: From Lepsius 1849-59.5: pl. 42. B: From Davies 1943.2: pl. LXIV.



A



B



C

Fig. 3-2. Cattle-boats. TT 40. Dynasty XVIII (Tutankhamen). A: After Lepsius 1849-59.5: pl. 116b. B: From Wilkinson 1994.2: 124 fig. 400. C: From Davies 1926: 34 fig. 5.

1828),<sup>22</sup> had recorded the scene prior to extensive damage (fig. 3-2.B). Davies published a reconstructed drawing of the middle boat based on extant traces and the copy by Wilkinson (fig. 3-2.C). A black and white photograph of the scene as it existed early in this century appears in W. Wreszinski 1988.1: pl. 42a.

Errors may creep into publication of material that is not, strictly speaking, epigraphic. In models, parts may be misplaced or confused with those of other models (see chapter VI). Photographs and other illustrations of the material may be flawed. In his rendering of one of the model traveling boats from the tomb of Tutankhamen (obj. no. 294), the illustrator has placed the tiller forward of and abaft the stanchions in the upper and lower illustration, respectively.<sup>23</sup>

## NOTES

- 1 Lichtheim 1973-80.2: 168 (Dynasty XX).
- 2 Caminos 1976: 15.
- 3 Baines 1986: 5-7.
- 4 Weatherhead 1994: 198.
- 5 Caminos 1976: 12. For the difficulties of producing clean photographs in tombs with friable walls, see Mekhitarian 1978: 30-32.
- 6 For a brief critique of photographic epigraphy, see Caminos 1976: 12-13, 16-17, 22-23. Reisner's photographic techniques are published in Der Manuelian 1992.
- 7 Der Manuelian 1992: 4.
- 8 Caminos 1976: 15-16.
- 9 Caminos 1976: 17 n. 45.
- 10 Caminos 1976: 10, Wilkinson 1979: 16.
- 11 Der Manuelian 1992: 3.
- 12 Oriental Institute 1997.
- 13 Caminos 1976: 17-19.
- 14 Oriental Institute 1997.
- 15 Caminos 1976: 17.
- 16 Wilkinson 1979: 16.
- 17 Wilkinson 1979: 13-14.
- 18 Wilkinson 1979: 16.

- 19 Schäfer 1986: 264. For an analogous example, see Schäfer 1986: 265.
- 20 Romano and Robins 1994.
- 21 Davies 1926: 27.
- 22 Davies 1926: 8.
- 23 Jones 1990: pl. XXXI.

## CHAPTER IV

### CONVENTIONS OF REPRESENTING THE HULL

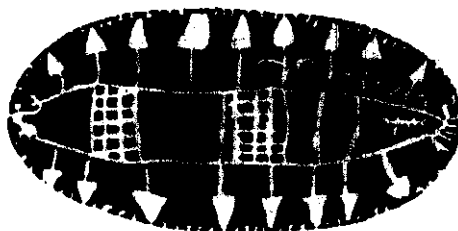
I conducted work on the sacred barque, I fashioned its colors.

Inscription of Mentuhotep at Abydos<sup>1</sup>

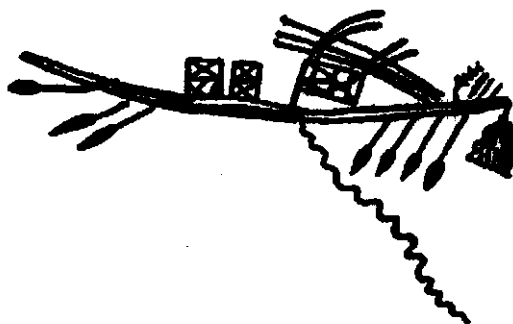
### THE HULL IN TWO DIMENSIONS

Egyptian draftsmen provided us with very few top views of hulls. Bowls, already boat-shaped, provided inspiration for ceramicists of the Predynastic Period, who used the top view as a motif for the interior decoration (fig. 4-1). Stem and stern ornamentation are indicated; lines running the breadth of the vessel may indicate beams. Cross-hatched areas indicate the placement of cabins seen in more conventional sheer views from the period (fig. 4-2). From the Dynastic Period, the only breadth views seem to be those of the solar barques depicted on the ceiling of the tomb of Rameses VI (one of which appears in fig. 4-3.a) and possibly that of a boat under construction, dating to the reign of Rameses II (fig. 4-3.b). The former gives a clear image of the draping characteristic of the solar barque,<sup>2</sup> bound around the stem in three places and also bound to the planksheer. The god's standard, a bound knife and staff,<sup>3</sup> appears at the stern. Forward of amidships is a rectangular chapel. Near the bow a square and a circle perhaps represent offering tables. Most curious are two pairs of feet, forward of and abaft the shrine, both facing forward. These represent the presence of statues, indicated by the "imprint" of a plinth abaft the heels.<sup>4</sup> There is no indication of the placement of the steering-oar stanchions, nor of any construction features of the deck. As if to clarify what object he meant to represent in this unconventional view, the draftsman placed a sheer view of the barque beneath the stem. The draftsman of fig. 4-3.b appears to have tipped the hull on its side, to display the mortises being drilled. Only the central plank (keel plank or proto-keel; see below), and garboards have been laid, and the draftsman has given the assembly the curve of a hull viewed from the side.

In the overwhelming majority of depictions of rafts and boats, the draftsman employs the sheer view. In these, deck planking is not visible of course, so it must be deduced from the relationship between people or objects and the bulwark where exactly the deck may be. The diverse ground-lines occupied by



**Fig. 4-1. Top view of a boat on a white cross-lined dish. Predynastic Period. After Vinson 1987: 90 fig. 32.**



**Fig. 4-2. Boat on a white cross-lined dish. Predynastic Period. After Vinson 1987: 91 fig. 33.**

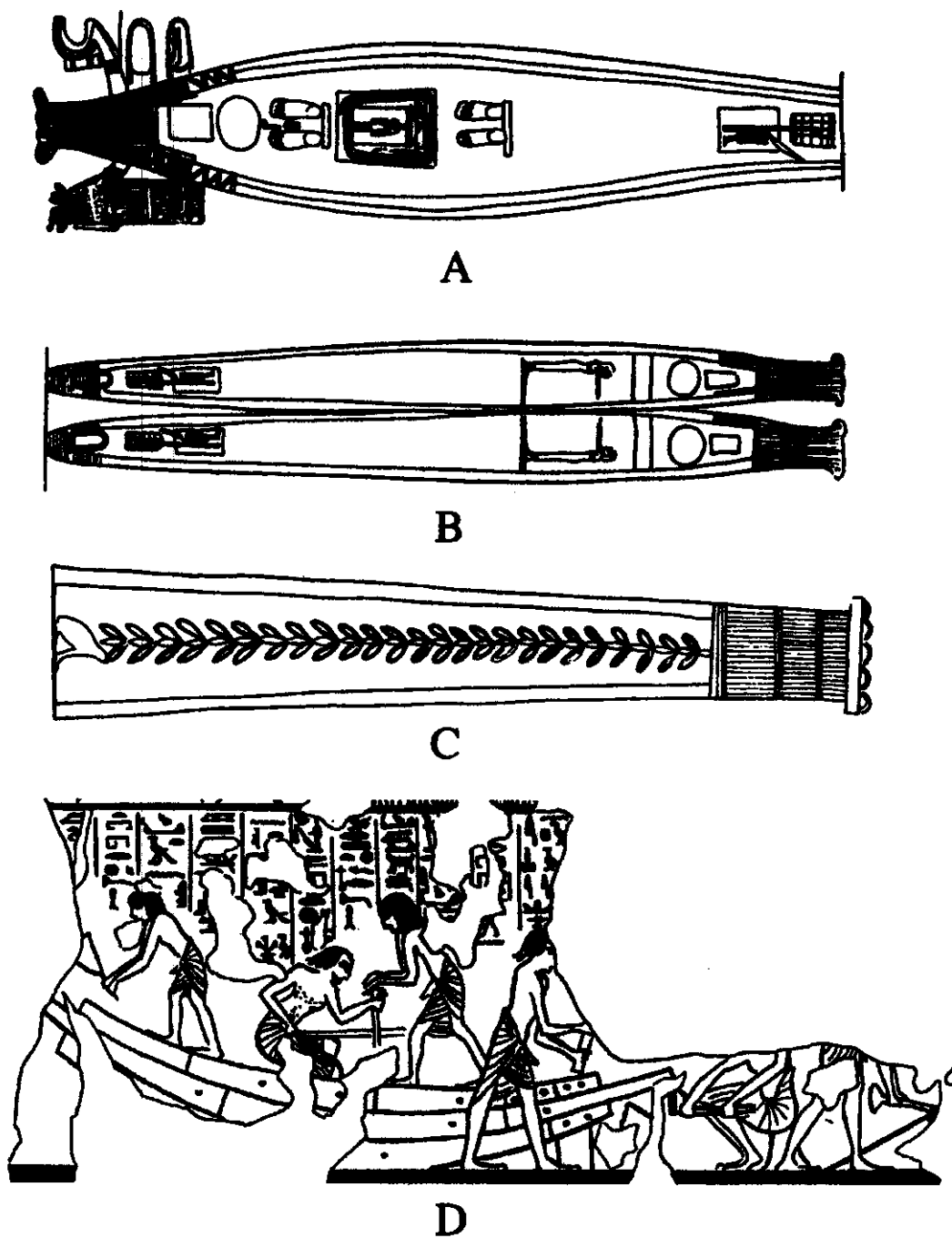


Fig. 4-3. Top (A, B, D) and bottom (C) views of boats. A-C: Views of the solar barque. Painting. Thebes, Tomb of Rameses IV. Dynasty XX (Rameses IV). A: After Heinrich Schäfer, 1986, *Principles of Egyptian Art*. Edited by Emma Brunner-Traut. Translated and edited by John Baines. Oxford: Griffith Institute, p. 128 fig. 104. B, C: After *ibid.*, p. 223 fig. 234. D: Boat under construction. Painting. TT 360. Dynasty XIX (Rameses II). After Bruyère 1933: pl. XXVI.



individuals aboard the same vessel suggest decked and undecked areas; for example, in fig. 4-4 the helmsmen, owner of the boat, an attendant, and the pilot appear to stand directly on the planksheer. The planksheer cuts the (idle) paddlers off at the thighs. The paddlers, therefore, have accommodations for their legs below deck level, in the hold itself, where they either sit on thwarts or stand. (Note that they are not kneeling, as the paddlers are in fig. 1-3.) Decking covers the bow, stern, and amidships (cf. fig. 1-11), an arrangement known from models.<sup>5</sup>

Also immediately apparent from this particular scene is variation of scale. The draftsman has used three scales for the human figures: largest is the tomb-owner, the primary passenger; the second-largest scale is reserved for the tomb-owner's attendant, pilot, helmsmen, the man handling the rigging, and the sailor relaying the pilot's orders; smallest are the paddlers. Clearly there is a positive correlation between the importance of an individual and his visual scale, a phenomenon by no means confined to ship representations (cf. fig. 1-1).

This relationship between scale and importance is not consistent throughout the entire body of Egyptian art. Although in some representations, the helmsman, always an important member of the crew,<sup>6</sup> is noticeably larger than the rest of the crew (fig. 4-5), in others, he is noticeably smaller (fig. 1-11). In these examples, compositional constraints have dictated the size of the figure. In fig. 4-5, the draftsman had to make the helmsman large enough to prevent the spars of the unstepped mast from obscuring him; in fig. 1-11, the helmsman must be small enough to fit abaft the steering-oar stanchions. Variation in scale is not confined to the figures, but may be present in the ship itself. Yard and boom may for example appear too large, as in fig. 4-5. Generally, however, the scale employed for the hull and its parts and equipment appears reasonably consistent.

Some types of ship are not presented entirely in sheer view. Decorative elements appear in whatever form they are most recognizable. So the collar of the divine heads used as stern and stern ornamentation appear frontally, when they would have been oriented forward, perpendicular to the centerline of the vessel (fig. 4-6). During the New Kingdom, a kind of steering-oar employing a cleft stern appeared (fig. 4-7; see chapter VI). In a perspective sheer view such as fig. 4-7.A, the viewer cannot tell if the steering-oar passes over the far side of the hull (port side in this illustration) or if it passes through some accommodation along the centerline, as is actually the case (fig. 4-7.B). To eliminate such ambiguity, the Egyptian draftsman rendered the cleft in breadth view (figs. 1-11, 1-12, 2-2, 3-2), showing

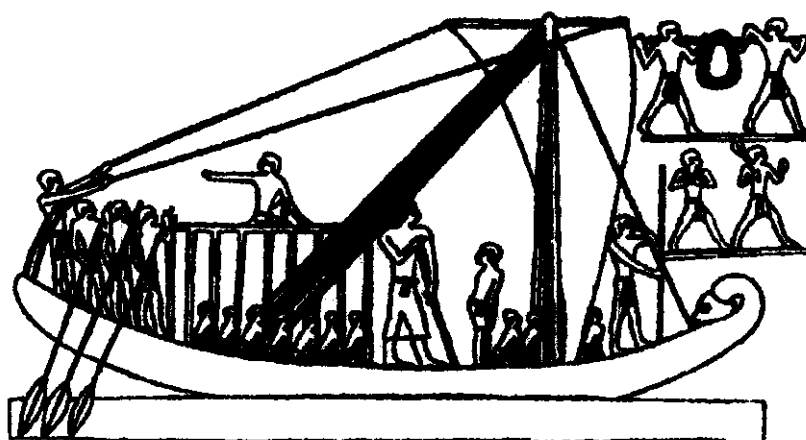


Fig. 4-4. "Hedgehog" boat. Giza, Tomb of Kanenisut. Early Dynasty V. After Junker 1929-43.2: 156 fig. 22.

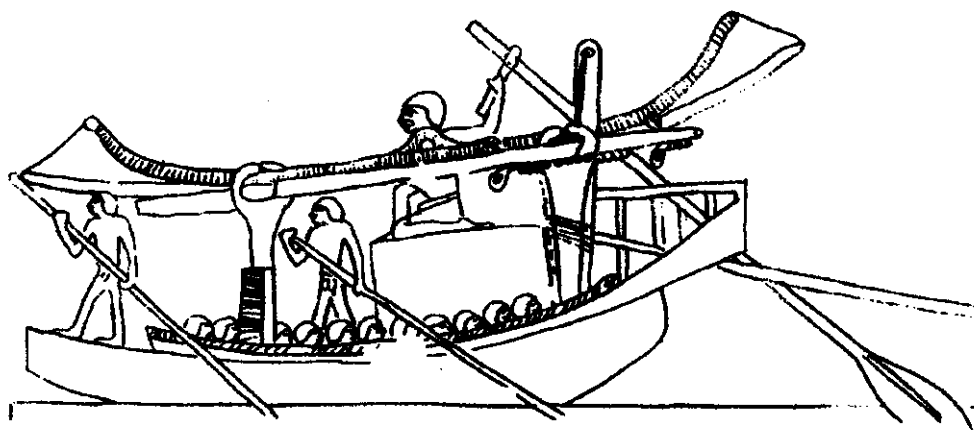


Fig. 4-5. Boat with unstepped mast. Relief. Saqqara, Tomb of Ipy. Dynasty V. After Vandier 1969.2: pl. XXXIX fig. 301.

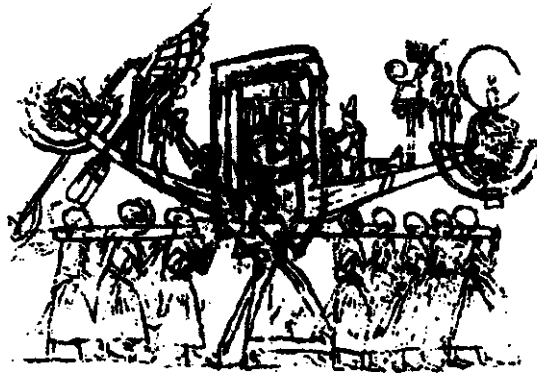
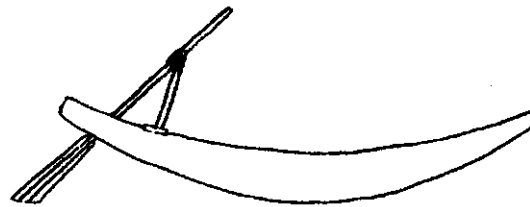
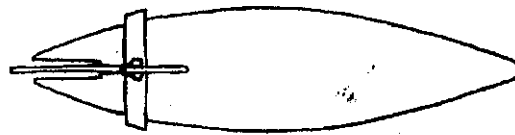


Fig. 4-6. Priests carrying the portable sacred barque of Amon (O. BÄM 21 446). Sketch on ostrakon. Deir el-Medina. Dynasty XIX. After Brunner-Traut and Brunner 1984: 52 fig. 36.



A



B

Fig. 4-7. New-Kingdom ship with cleft stern (after Object No. 375). Thebes, Tomb of Tutankhamen. Dynasty XVIII (Tutankhamen). After Jones 1990: pl. XXX.

that the steering-oar passes through a cleft. However, in these Escheresque arrangements the upper edge of the starboard planksheer becomes at the stern the edge of the port planksheer; the upper edge of the starboard stern is now formed by that line that should represent the outline of the bottom. This arrangement may be reversed, so that the upper edge of the starboard planksheer remains the upper edge of the starboard stern (fig. 1-11). Stem and stern appear as construction elements distinct from the planking itself (figs. 1-6, 2-2, fig. 3-2), paralleling the backing timbers of the earlier Khufu I vessel.<sup>7</sup>

In both paintings and reliefs, the draftsmen often omitted the strakes altogether (figs. 1-7, 1-10, 1-11, 1-12, 1-13, 1-15, 1-16, 1-18, 1-21, 1-22, 3-2). In the case of reliefs, this detail may have been painted and lost,<sup>8</sup> although in rare instances the strakes were carved (fig. 1-14). The difficulties presented by the loss of the intended finished surface and its painted detail is underscored by the relief depicting the ships of the Sea Peoples at Medinet Habu. In his reconstruction of these vessels, S. Wachsmann has negotiated the difficulties presented not only by such losses but artistic errors, demonstrating the existence of an open rower's galley, such as is found on Aegean ships, rather than a bulwark such as the Egyptian ships have.<sup>9</sup>

In boats both completed and under construction, the draftsman illustrated a variety of plank shapes. Besides the usual butt joints (fig. 4-8.A), diagonal scarfs (fig. 4-8.B) and, according to E. Rogers, S scarfs (fig. 4-8.C) appear.<sup>10</sup> A draftsman might avoid certain difficulties by not dividing the lowermost visible strake into planks (fig. 2-2) or by dividing none of the strakes into planks (fig. 1-14). In sketches, a line or two parallel to the sheer suggests subsequent strakes (fig. 4-6).

The draftsman usually showed the ropes that bound papyrus rafts, or at least some of them (figs. 1-3, 1-4, 1-5, 1-8, 1-9), but less often the individual lengths of reed (fig. 1-2). This can lead to some confusion when trying to identify reed rafts and papyriform wooden boats. The latter are often so detailed that the boatwrights carve the bindings and even the knots into the hull (fig. 4-9).<sup>11</sup> Such details have led some to the inaccurate conclusion that the Egyptians built even their seagoing boats of papyrus.<sup>12</sup>

The bottoms of Egyptian boats in reliefs and paintings are usually obscured by a baseline (see chapter V). However, some scholars have identified a particular construction element seen in two- and three-dimensional representations of certain Dynasty XVIII vessels as a keel (fig. 4-10). Stem and stern are flattened laterally, and in cross-section taken forward or abaft the waist, the ship appears to have a keel (fig. 4-11). However, this projection is not continuous; at the waist sections show no trace of it (fig. 4-

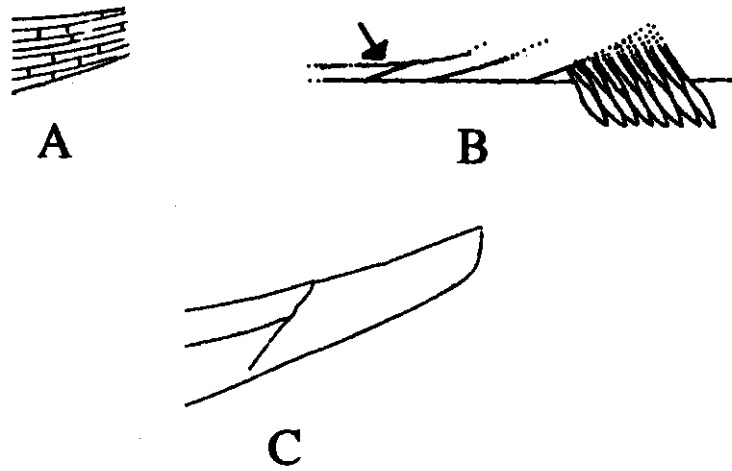


Fig. 4-8. Joints. A: Butt joints. After fig. 2-2. B: Diagonal scarf. After fig. 1-14. C: S scarf. After Rogers 1996: 107 fig. 62.

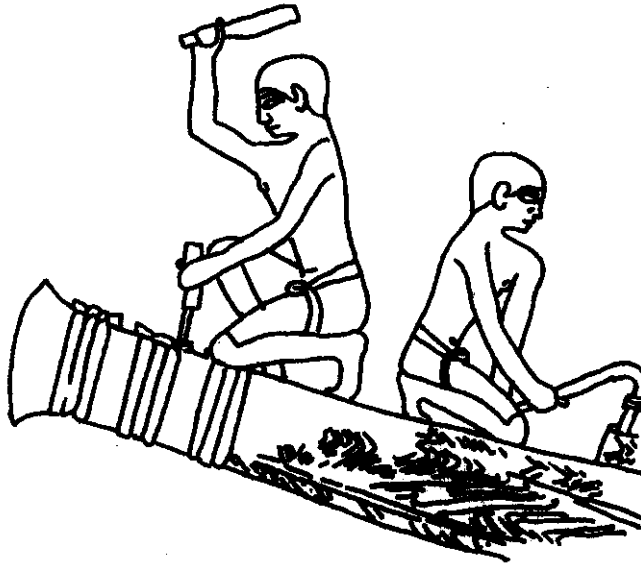


Fig. 4-9. Wooden papyriform boat stern with carved wooden "knots." Relief. Saqqara, Tomb of Ty. Late Dynasty V. After Rogers 1996: 69 fig. 37.

11.3.EF). A terra-cotta model from Byblos, which represents this kind of ship, shows that this timber projected *into* the hull as a kind of proto-keel.<sup>13</sup>

Unlike their Predynastic predecessors,<sup>14</sup> Old Kingdom draftsmen avoided overlapping boats to any great extent. Although a stem might overlap stern, draftsmen preferred to fit the boats among each other, adjusting scale as necessary. They overcame this inhibition completely by the Middle Kingdom,<sup>15</sup> and by the New Kingdom, one hull overlapping another is ubiquitous (figs. 1-12, 1-14, 2-2, fig. 4-10). The lateral extension is almost always done in a forward manner: in other words, it is the bows, rather than the sterns, of subsequent boats that appear from behind the first.<sup>16</sup>

## THE HULL IN THREE DIMENSIONS

Representations of the hull in three dimensions may be divided into three general categories: models, statuary, and jewelry. As concerns the subject of this paper, only the first two categories will be considered in detail.

Statuary of boats is uncommon. Perhaps the best-known is the fragmentary statue of Mutemwia, mother of Amenhotep III.<sup>17</sup> This granite statue forms a rebus of Mutemwia's name, "The Mother-Goddess is in the Barque." The goddess Mut, wife of the god Amen, sits enthroned aboard a sacred boat (*wiA*); the barque rests on a sledge by which it would have been pulled in ritual procession (cf. fig. 1-6). A pair of cow-eared Hathor-heads, situated Janus-style, decorates the bow. (The stern is missing.) The form of the boat is not completely freed of the block; the space between the bottom of the stem and stern and the runners of the sledge remains solid. This is characteristic of boat statuary (fig. 4-12).

A second, even more fragmentary representation is a limestone statuette depicting Osorkon II (Dynasty XXIII) kneeling to present a model divine barque to Amen-Ra.<sup>18</sup> Of the boat itself little remains but the stern and steering oars.

Model boats are extremely common and may be divided into four general types: wood, metal, pottery or faience, and stone. Primarily wooden models are discussed here.

Wooden models may be further subdivided: those with hulls carved of a single block of wood; and those built out of planks. The relative fragility of plank-built models has not aided their preservation in

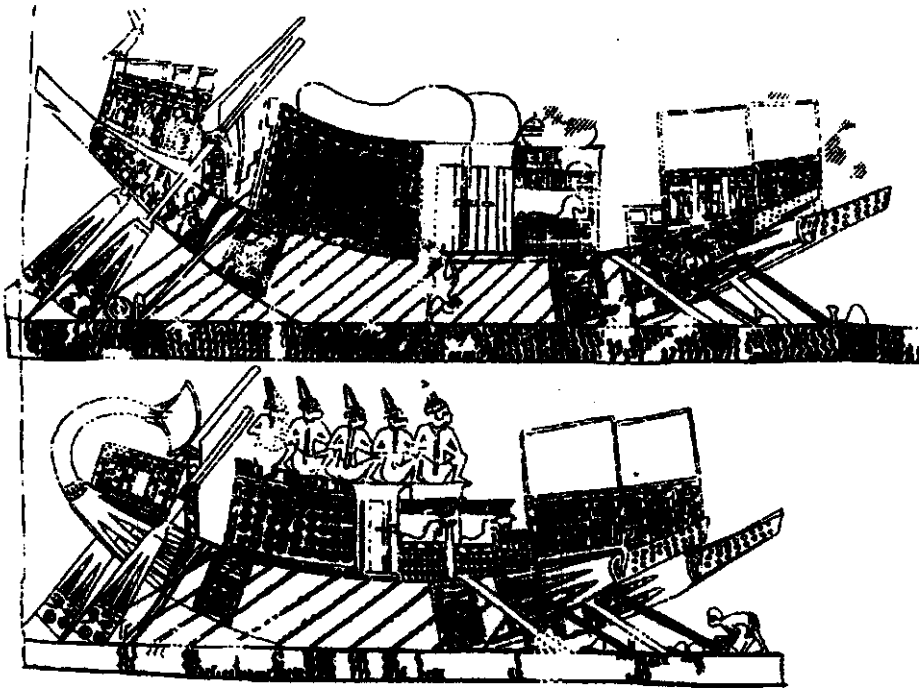


Fig. 4-10. Moored boats. Painting. TT 40. Dynasty XVIII (Tutankhamen). From Davies 1926: pl. XXXI.

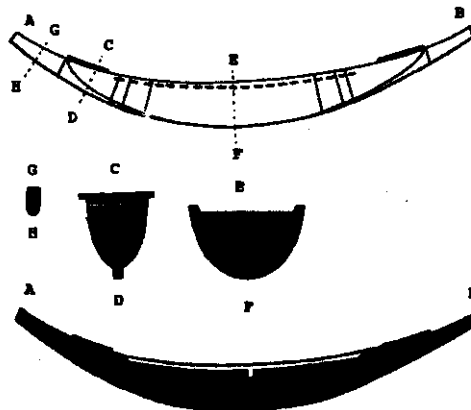


Fig. 4-11. Model boat. Wood. Thebes, Tomb of Amenhotep III. Dynasty XVIII (Amenhotep III). From Reisner 1913: 96 figs. 348, 349.

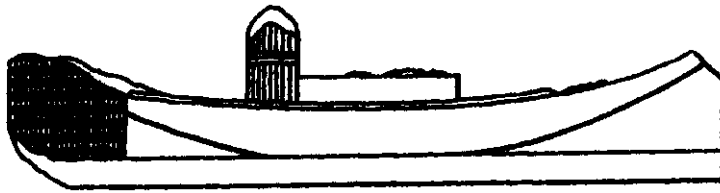


Fig. 4-12. Statue of the solar barque (EM 4924). Granite. Mitrahina. New Kingdom - Late Period?  
After Reisner 1913: 82 fig. 306.

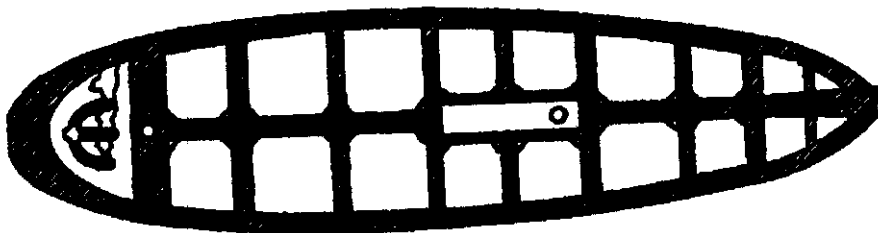


Fig. 4-13. Model boat (EM 4952). Wood. El Bersheh. Middle Kingdom. From Reisner 1913: 105 fig. 369.



the archaeological record.<sup>19</sup> The surviving example that has been studied,<sup>20</sup> dating probably to the reign of Amenemhat II, bears obvious resemblance in its construction details to other Pharaonic Egyptian boats (see chapter I).<sup>21</sup>

More typical model hulls, carved from a single block of wood, may be further divided into three categories: solid, partially hollowed and entirely hollowed. The first is by far the most common. In solid models, the construction of surface features such as the deck is indicated by paint: beams and central girder (which divides to accommodate the mast) being red; the deck planking itself, white (fig. 4-13).<sup>22</sup> EM 4952 (fig. 4-13) and EM 4955<sup>23</sup> have at each intersection of the beams and central girder black lines, suggesting the stanchions supporting the central girder.<sup>24</sup>

In partially hollowed models, paint also indicates construction elements, but some details, such as thwarts, may be added as separate pieces. These hulls have been hollowed between the thwarts to accommodate the legs of model rowers (see chapter VI).

The rather rare fully hollowed model boats have beams inserted as separate pieces; in some instances, the only beam present is that supporting the steering-oar stanchions. In all types, fittings such as stem or sternpost may be separate pieces (e.g. fig. 4-11). A. M. J. Tooley proposes supplementing G. A. Reisner's model boat classification system<sup>25</sup> with the subtype "/viii" to indicate a fully hollowed model.<sup>26</sup>

A few solid ship models of the New Kingdom have through-beams. These are made as separate pieces that fit into mortises carved into the hull,<sup>27</sup> and demonstrate that, unlike the flush through-beams of the Dashur boats,<sup>28</sup> during the New Kingdom they protruded beyond the hull.

Middle Kingdom modelmakers carved their boats with flat bottoms to permit them to stand in the tomb (fig. 4-14). New Kingdom model boats have rounded bottoms (fig. 4-11), no doubt because, with rare exception, these have no crew and therefore less need to stand independently. Even manned New Kingdom models are mounted on carriages, freeing the bottom of the hull from any duty as a base.<sup>29</sup> Therefore caution must be exercised when interpreting the hard chine of a model as a reflection of the actual boat.

Models are not painted to indicate individual strakes.

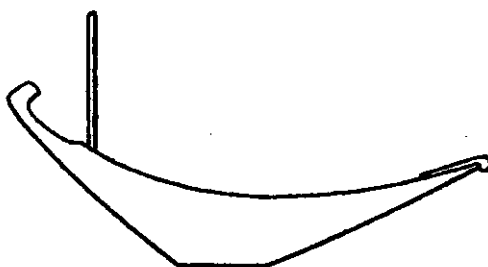


Fig. 4-14. Model boat (EM 4845). Wood. Meir. Middle Kingdom. From Reisner 1913: 33 fig. 126.

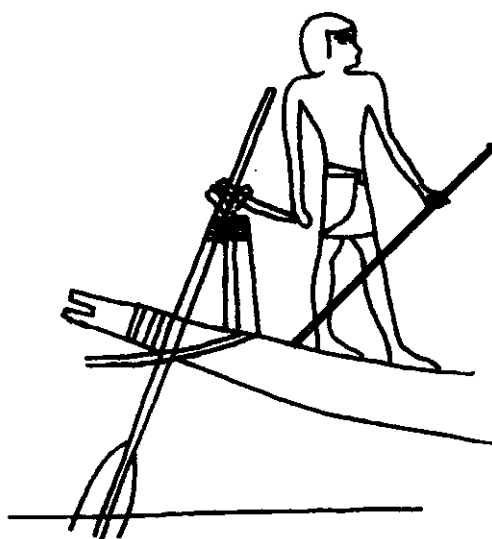


Fig. 4-15. Helmsmen aboard tow-boat. Drawing. TT 312. Late Period. After Jenkins 1980: 164 fig. 128.

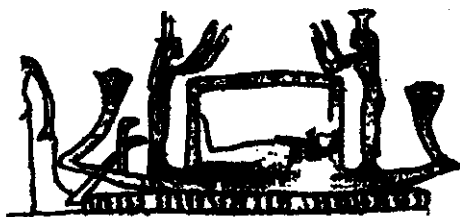


Fig. 4-16. Model funerary barque towed in procession (YAG 1906.1). Painting on papyrus. Ptolemaic Period. After Scott 1986: 159 no. 90.

## ARTISTIC ERRORS

Errors by draftsmen and modelmakers exist in such number that to catalog them would be an impossible, and in the end fruitless, task, but several deserve note. Other errors or suspected errors that contribute to the difficulty of interpretation of specific subjects will be dealt with in relevant chapters.

When large numbers of boats appear close together, the draftsman may forget how many hulls he has drawn and subsequently supply an incorrect number of steering oars or yards.<sup>30</sup> The draftsman may forget to provide one of a pair of steering oars with a tiller<sup>31</sup> or draw two steering oars on a single stanchion.<sup>32</sup> The relationship between quarter rudders and the stanchions that support them is very often muddled. In fig. 1-6, two quarter rudders are distributed correctly on the port and starboard sides of the model boat under construction. However, they are drawn so that they are on the far side of both stanchions. In the Late Period, the draftsman's befuddlement regarding the steering arrangement deepens to the point at which one can fairly surmise that he was no longer familiar with it: the rudder that once passed through the cleft of the stern may now appear mounted at the quarter (fig. 4-15). By Ptolemaic times, a draftsman was so unfamiliar with the once-ubiquitous sacred barque that he confused stem and stern, and had a figure drag the boat backwards, steering-oars leading the way (fig. 4-16).

## NOTES

- 1 Breasted 1906.1: 257 §534 (Senwosret I).
- 2 The absence of this stem decoration is one reason to doubt the interpretation of the Khufu I vessel as a representation of the sun-god's boat (Cerny 1955: 76).
- 3 Wilkinson 1992: 186-87.
- 4 Schäfer 1986: 128.
- 5 See here, chapter VII.
- 6 See here, chapter VI.
- 7 Lipke 1984: 65 fig. 41, 66 fig. 42, 69 fig. 44; Haldane 1993: 96.
- 8 Rogers (1996: 106) describes the painted graining of boats in the tomb of Ty.
- 9 Wachsmann 1981, Wachsmann 1982, Wachsmann 1998: 163-75, 317-19.
- 10 Wachsmann 1998: 169-70. For the appearance of S scarfs, see Rogers 1996: 106-08; for other construction details, see *ibid.* pp. 108-24.
- 11 Rogers 1996: 5, 25 fig. 9, 69 fig. 37, 112-13 figs. 67-68.
- 12 Heyerdahl 1971.
- 13 Wachsmann 1998: 52-53, 241-242, Hocker 1998. Monroe (1990: 74) suggested that these provided lateral support but were not keels. One of the objections to the existence of a keel on Egyptian boats has been the concurrent use of a hogging truss (e.g., Jones 1990: 54). The use of one does not preclude the other; the Greek trireme possessed both keel and hogging truss, the latter in the form of a *hypozygma*.
- 14 Schäfer 1986: 178 figs. 170-71.
- 15 For a rare exception, see the Syrian ships (on the right) in TT 162 (Davies and Faulkner 1947: pl. VIII).

16 Newberry n.d.1: pl. XVIII.

17 Shaw and Nicholson 1995: 48.

18 Corteggiani 1987: 151 no. 97.

19 Cf. Haldane 1993: 195-96.

20 The two boats, each about 3 meters long (slightly longer than the planked Lisht model), found at the mortuary temple of Raneferef at Abusir (Verner 1986: 155) may be such models.

21 Haldane 1993: 195-200.

22 Virtually all ship-models from the Middle Kingdom have these painted features. See Glanville 1972, Reisner 1913, Leospo and Fozzati 1992, Winlock 1955 (especially pp. 47-48). They disappear, however, from New Kingdom models, which have solid-colored decks (Jones 1990), which may or may not indicate that the planking covered the beams.

23 EM 9455 (Reisner 1913: 108 fig. 377).

24 Similar marks appear on BM 35292 (Glanville 1972: 50 fig. 51).

25 Reisner 1913: iii ff.

26 Tooley 1991: 70.

27 Bresciani, Pernigotti and Silvis 1977: pl. LV.

28 Haldane 1993: 211.

29 EM 52.666 and 52.667, Vernier 1907: pl. XLIX, Landström 1970: 98 figs. 311-12.

30 Davies 1903-08.1: pl. XXIX.

31 Bianchi 1980: 116.

32 Davies 1926: pl. XXXI.

## CHAPTER V

### WATERSCAPES

Thus the day wanes, and the level cliffs keep with us all the way -- now breaking into little lateral valleys and culs-de-sac in which nestle clusters of tiny huts and green patches of lupin; now plunging sheer down into the river; now receding inland and leaving space for a belt of cultivated soil and a fringe of feathery palms.

Amelia B. Edwards, *A Thousand Miles up the Nile*<sup>1</sup>

The draftsman employed several motives to represent a body of water in a scene. In the earliest representations, figures on land or water were entirely free of baselines. Boats and land-dwelling animals on pottery, and in the Painted Tomb at Hierakonpolis, stand side-by-side in the "landscape" (fig. 5-1). The draftsman did not delineate between water and land, prompting early arguments that the boats were not boats at all but fortified villages.<sup>2</sup>

By dynastic times the artistic convention was to delineate, to one extent or another, water and land. The artist of the Scorpion Macehead resolved this dilemma with a cartographic representation of the river or its channels (fig. 1-1). Scenes of the netherworld are commonly so presented in New Kingdom papyri, permitting a clear view of the activities taking place along the streams and channels of the afterlife (fig. 5-2). In the visual rendition of the Battle of Kadesh, fought between Rameses II and Muwatillis (c. 1285 B.C.E.), terrified Hittites overrun a cartographic representation of the Orontes in their attempt to flee the might of Pharaoh.<sup>3</sup>

However, the standard convention for indicating water became and remained the rectangular "hieroglyphic" motif (fig. 1-14; cf. fig. 1-7). This rectangle, the hieroglyph for a body of water, is some shade of blue (or green),<sup>4</sup> usually with vertical waves painted in white, black, or a contrasting shade of blue.<sup>5</sup> When situating the body of water in direct relationship to a baseline for figures on land, the draftsman rarely recessed the land baseline for the hieroglyphic water. Water occupies an entire register or a series of registers in many scenes (figs. 1-2, 1-3, 1-8, 1-12, 1-14). Separate registers of water may be explicitly interrelated: tow-boats may occupy registers above and below that of the barge (fig. 5-3).

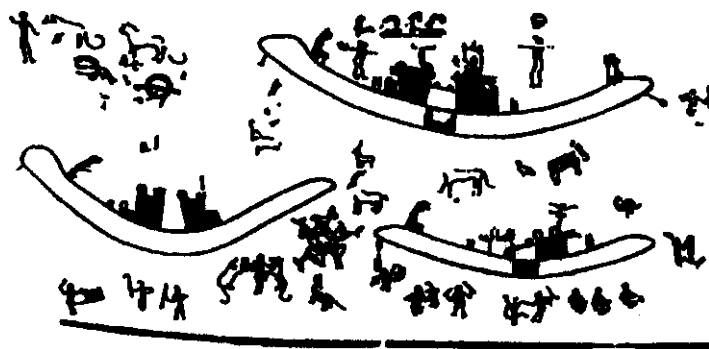


Fig. 5-1. Boats, people and animals. Painting. Hierakonpolis, Tomb 100 (the Painted Tomb). Gerzean Period. After Boreux 1925: 34 fig. 8.

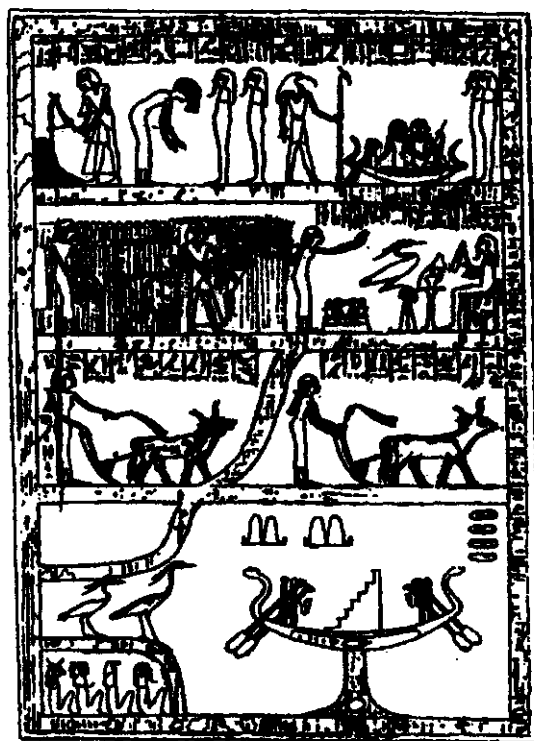


Fig. 5-2. The netherworld. P. of Anhai. Painting on papyrus. Dynasty XX. From Budge 1923: 325.

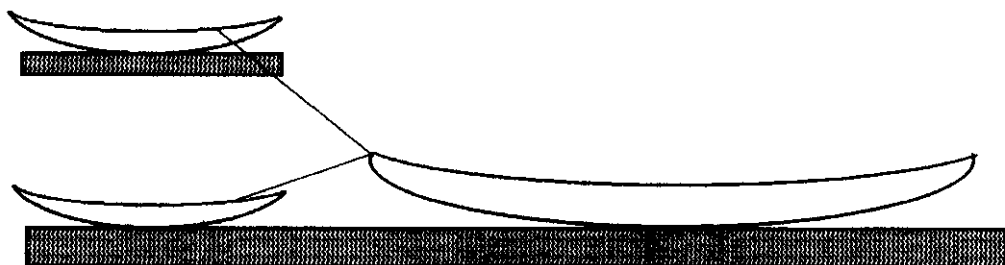


Fig. 5-3. Schematic representation of tow-boats and barge occupying different registers. New Kingdom. After Epigraphic Survey 1979: pl. 19.



Fig. 5-4. Ships in port. Relief. Memphis. Late Dynasty XVIII. After Martin 1987: pl. 11 no. 29.



Whether the water represented is explicitly a pond or the river, and whether the representation is hieroglyphic or cartographic, boats occupy 1) the upper edge of this rectangle (figs. 1-3, 1-7, 1-5, 1-8, 1-9, 1-10, 1-11, 1-12, 5-2, 5-4); 2) less often, the bottom (fig. 5-4), where more likely a crocodile or hippopotamus lies in wait (fig. 1-8); or 3) the space between, free from any explicit baseline (fig. 5-4). Although the last parallels Pre- and Protodynastic representations (cf. fig. 5-1), the earliest dynastic example of this convention comes from the Dynasty VIII tomb of Wahi at El-Hagarsa.<sup>6</sup> Never truly popular, this convention was used primarily during the New Kingdom.<sup>7</sup>

In most scenes the baseline interrupts the line of the bottom of the hull, creating a flat-bottomed appearance. The baseline must not be mistaken for the waterline: the draftsman was not often willing to obscure so much of the hull, so on the whole, images of boats show far more freeboard than would actual vessels floating in the water. It is not unusual for the entire hull to be visible, because the draftsman has either placed the bottom tangential to a baseline (figs. 1-7, 1-15) or freed the boat of a baseline entirely (fig. 5-4). Steering oars (figs. 1-13, 1-14, 1-21, 4-4, 4-5), rowing oars (figs. 1-9, 1-10, 1-11, 1-13, 1-18, 4-10), paddles (figs. 1-5, 1-7, 1-8), quants (figs. 1-3, 1-8, 4-5) and figures reaching over the side (figs. 1-11, 4-10) tend to violate the baseline; rudders, on the other hand, are more likely to be cut off by it (figs. 1-9, 1-11, 1-12, 1-14, 1-16; for rudders not cut off see figs. 1-15, 4-15, 5-5).

The form of the water may be adapted to specific needs, and the draftsman produced a bewildering array of solutions to the problems of representing waterscapes and the figures in them. When the draftsman illustrated a tomb-owner spearing a fish (fig. 1-8), rather than extend the weapon into the band of water beneath his papyrus raft, the draftsman drew a "hill" of water conveniently nestled in a papyrus clump (fig. 1-8),<sup>8</sup> or a disassociated half-oval of water,<sup>9</sup> into which the man may thrust his spear. The tomb-owner need not take the trouble either to look or to bend down.

Land-bound figures occupy many positions in relationship to the water. "Floating" baselines above a register of water were one convention employed to indicate activity ashore taking place in proximity to a boat (figs. 1-8, 1-21, 1-22, 4-4).<sup>10</sup> Fully developed scenes of this type from late Dynasty XVIII (fig. 5-5) make more explicit the relationship between the register of water and the baselines. The draftsman utilized this convention to expand the scene vertically rather than horizontally and without creating an entirely new register, which would obscure the relationship among the participants in the scene. Figures ashore may also occupy the upper edge of the register of water (figs. 1-1, 1-9, 4-10; cf.

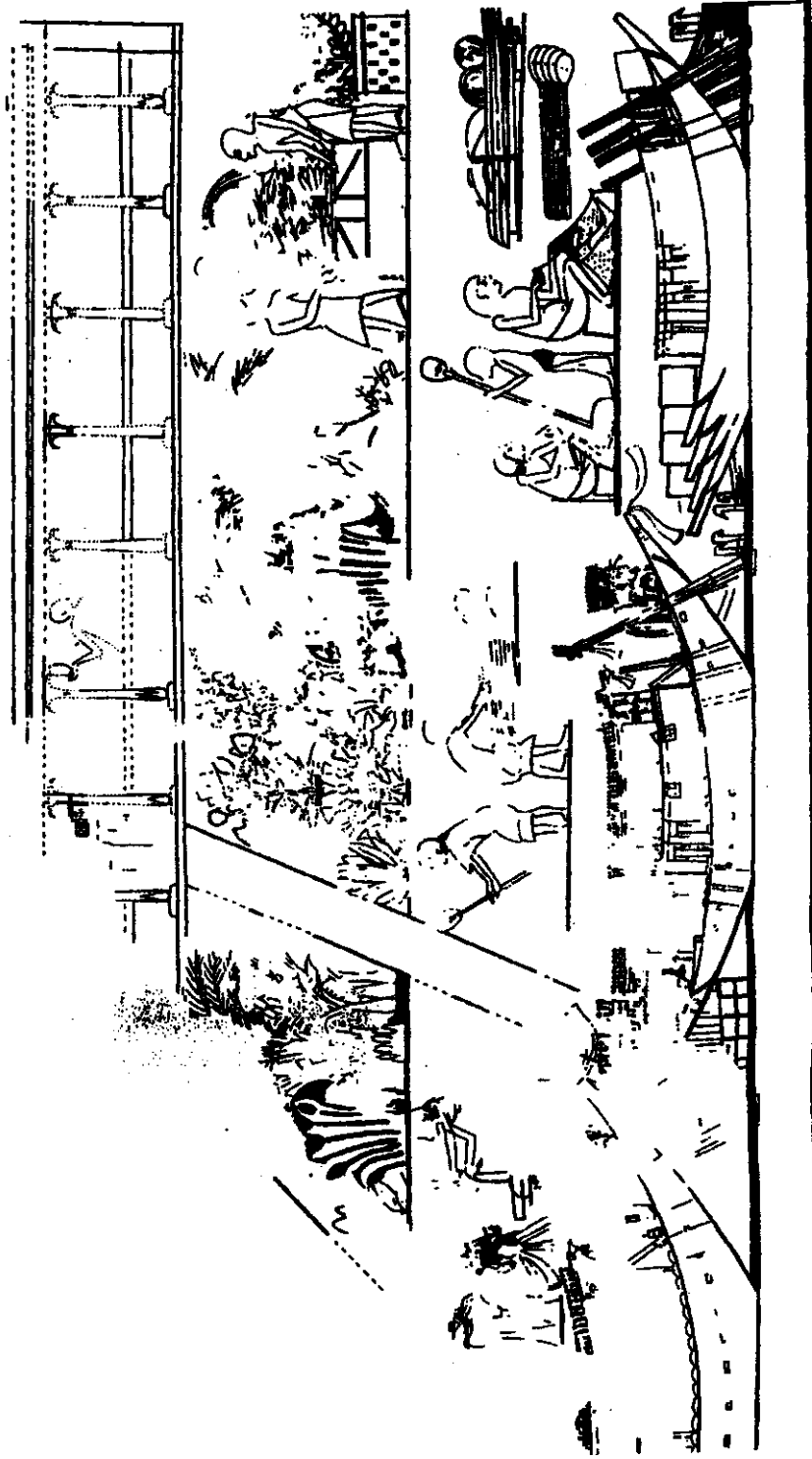



Fig. 5-5. Quay at Akhetaten. Amarna, Tomb of Maya. Dynasty XVIII (Akhenaten). From Davies 1903-08.5: pl. V.

figs. 1-4, 1-12).

The orientation of a wall may provide a subtle clue as to the intended location of a scene or direction of a voyage: a relief on the north side may indicate a northern locale, and south a southern,<sup>11</sup> but definitive depictions of specific locations are unusual. Despite arguments regarding the location of Punt,<sup>12</sup> the draftsmen who drew the relief of Hatshepsut's expedition to Punt took pains to illustrate the exotic people, houses, plants and fishes they encountered there or en route.<sup>13</sup> Although it is possible to identify particular harbors in a few scenes<sup>14</sup> and funerary scenes from the Theban tombs have an implicit or explicit Theban locale, for the most part Egyptian waterscapes are conventionalized rather than specific.

## NOTES

- <sup>1</sup> Edwards 1888: 76.
- <sup>2</sup> See Read 1916 for a summation of this controversy.
- <sup>3</sup> Lepsius 1972-73.3: vi.160-165. For other New Kingdom examples of cartographic scenes not explicitly netherworldly, see Davies 1933: pl. XVIII; Davies 1903-08.3: pl. VIII.
- <sup>4</sup> Mekhitarian 1978: 82.
- <sup>5</sup> This convention is somewhat curious in light of the horizontal positioning of the hieroglyphic wave  *n*. Wilkinson (1992: 137) suggests that this 90 degree rotation "seems to heighten the sense of distance conveyed in the representation." When the direction of the water runs vertically, rather than horizontally, as in representation of the Orontes in Lepsius 1972.3: pl. vi.60-165, the lines run "shore-to-shore" horizontally. Where the river encircles the town of Kadesh, the waves radiate from a central point.
- <sup>6</sup> Kanawati 1995: pl. 29.
- <sup>7</sup> Martin 1987: pl. 11 No. 29; D'Abaddie 1954: pl. XII; Nelson 1943: fig. 4.
- <sup>8</sup> Schäfer 1986: 243.
- <sup>9</sup> Schäfer 1986: 242-43 fig. 255.
- <sup>10</sup> Cf. Newberry 1893: pl. XXIX, with a most unusual floating baseline in the water, perhaps intended to make clear that the herdsman occupying is wading in the shallows, rather than standing on shore like the line fishermen or in deeper water like the net fishermen.
- <sup>11</sup> Gaballa 1976: 24, 50, 52-53, 86, 88.; Wachsmann 1998: 23.
- <sup>12</sup> For some views regarding the location of Punt, see, e.g., Säve-Söderbergh 1946, Danelius and Steinitz 1967, Gaballa 1976: 51, Saleh 1982, Cozzolino 1992, Fattovich 1992, Bradbury 1996, Phillips 1996.
- <sup>13</sup> Gaballa 1976: 51.

<sup>14</sup> See chapter VIII.

## CHAPTER VI

### THE HELM

If a man sees himself in a dream acting as steersman in a ship, it is BAD. In any judgment of him he will not be found innocent.

P. BM 10683<sup>1</sup>

### THE HELM AS METAPHOR AND IN RITUAL

The helmsman and steering oars were frequent objects of metaphor for behavior. In the Middle Kingdom "Tale of the Eloquent Peasant," the peasant Khun-Anup travels from the Wadi el Natrun to the land along the Nile to sell his produce. Finding himself cheated out of his goods by the covetous Nemtynakhet, he pleads his case on successive days to the high steward Rensi. Silver-tongued Khun-Anup employs a series of nautical metaphors, one of which is:

You are the whole land's rudder,

The land sails by your bidding.<sup>2</sup>

During the siege of Hermopolis (eighth century BCE) the Nubian king Piye warned the pleading Hermopolitans of the danger in resisting his conquest: "The heart is the rudder. It capsizes its owner through that which comes from the wrath of god."<sup>3</sup> Similarly, in papyri of Ptolemaic date, the sage Ankhsheshonq warned that "A slip of the tongue in the royal palace is a slip of the helm at sea."<sup>4</sup> The sage Amenopet cautioned that a man should not steer with his tongue.<sup>5</sup>

The god Amon "who knows compassion" was "helmsman of the [weak],"<sup>6</sup> Lichtheim suggesting *hmy* ("helmsman, steersman") for *hmyt* ("rudder, steering oar") in this passage.<sup>7</sup> However, BD 148 also refers to a god as a steering oar: "As for one for whom this [spell] is used, Re (shall be) his rudder and his protection in the god's domain, in sky, in earth, or anywhere he may go."<sup>8</sup> Manning the helm was not beneath the dignity of other gods,<sup>9</sup> and serving as helmsman on the sacred boats during festivals was likewise considered an honor.<sup>10</sup>

The helmsman was expected to know what he was doing and to keep his mind to the task at hand: "Steersman, let not drift your boat. . . ."11 If he failed, something was assumed amiss with him, as the Eloquent Peasant reminded the high steward:

Though the face of the steersman is forward, the boat drifts as it pleases.  
 Though the king is in the palace, though the rudder is in your hand, wrong is  
 done around you. Long is my plea, heavy my task. "What is the matter with  
 him?" people ask.12

Despite this responsibility, or perhaps because of it, the position of divine helmsman was desired in the afterlife. By declaring himself helmsman, the deceased laid claim to powers and privileges reserved for the gods, and, to some extent, power over the gods who traveled in the barque he steered: "N is the disheveled one, the son of Re who steers his bark. O Re, <he> is ferried across,13 and he will neither perish nor head downwards nor be destroyed, for N is Babi."14

Steering oars or rudders might themselves be divine and symbolized the universal guiding powers of the four cardinal points (fig. 6-1).15 In BD 148 the deceased petitions these "good" or "beautiful" steering oars for "bread and beer, oxen and fowl," as well as "life, soundness, health, gladness and (long) sojourn on earth" and "sky, earth, horizon, Heliopolis, and the nether world."16 Symbolic of his dominion over the four corners of the earth, the king runs with a steering oar in his royal jubilee (fig. 2-3).

Each part of the steering oar had a magical name or identity, some with obvious connections to the duties of the helmsman, while others have more obscure connotations. These are identified as follows:

- Rudder/Steering oar(s): accurate or Exact One,17 Tested (and) Accurate;18 that which causes the fair staff which is in the grasp of Re to pass by(?);19 the support of Thoth which Re set up on the day of the great [. . .]-bark which came into being in the Netherworld;20 the corner which is between the platforms(?) of the *neshmet*-barque;21 those who stand before Anubis the great;22 Re,23 Geb24 (the earth-god); ^Mal(odorious)^.25

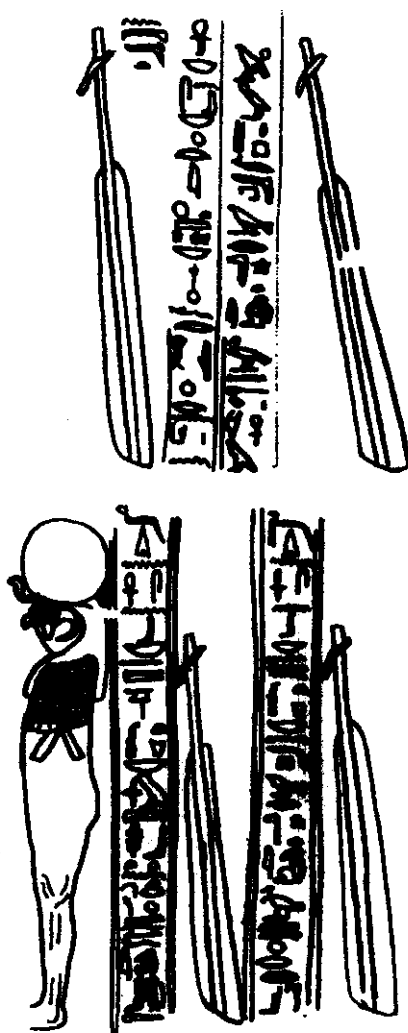


Fig. 6-1. The four divine rudders. Relief. TT 36. Dynasty XXVI (Psammetichus I). After Kuhlman and Schenckel 1983: pl. 35.



- Stock/Loom(s): cedar;<sup>26</sup> (?) the hide of the Ram who is with Horus and Seth;<sup>27</sup> (?) Nose of Ptah;<sup>28</sup> (?) Mistress of the Land in the garden.<sup>29</sup>
- Blade(s): Dependable and Accurate;<sup>30</sup> Sunshine which cuts through the water (or, Sunlight in the cleft water),<sup>31</sup> Sunshine in summer,<sup>32</sup> Sunshine in the water in [heat(?)];<sup>33</sup> tongue of Re;<sup>34</sup> Thorn.<sup>35</sup>
- Tiller(s): Sekhmet when she protects;<sup>36</sup> the bow-strings (or “sinews”) of those who are about the Abyss;<sup>37</sup> (with the stern-post) Great One when he is with those who pray.<sup>38</sup>
- Stanchion(s): the elder gods who preside over Nedit;<sup>39</sup> Reeds of the Field of God;<sup>40</sup> Serpents of the Field of God.<sup>41</sup>
- Helmsman: Two Baboons.<sup>42</sup>

Knowledge of their sacred names was key to giving the deceased the boat he needed and desired in the netherworld.


## TERMINOLOGY OF THE HELM

The devices by which a watercraft is steered fall into two categories: steering oar and rudder. Although both devices may be mounted at either the quarters or the stern, a rudder is “permanently mounted and turns about a fixed axis,” whereas a steering oar is not.<sup>43</sup> For the purposes of this paper, an oar mounted only to planking or a crosspiece, and therefore free to be levered against the hull, will be called a steering oar. An oar that has been mounted to a stanchion, and therefore fixed to rotate only on its axis, will be called a rudder. Throughout this paper, “steering oar” will be used to refer to both rudder and steering oar, with distinction being made as necessary.


The Egyptians themselves did not distinguish between steering oars and rudders in their terminology. The usual Egyptian word for either is *ḥmw* or *ḥmyr*.<sup>44</sup> The helmsman himself is referred to as one who “does” (*iry*),<sup>45</sup> controls (*lwt*)<sup>46</sup> or is between (*lmy*)<sup>47</sup> the steering oar or steering oars. He may also be simply *ḥmy*,<sup>48</sup> “(he) of the steering oar.” To refer to the “helm,” that is, the steering gear as a whole, *wḏyt* is used.<sup>49</sup> The helmsman steers (*sšm*)<sup>50</sup> the boat. He “takes” (*sšp*) the *wḏyt*.<sup>51</sup>

or he may “ply” (*lw*)<sup>52</sup> or “arrange” (*ls*)<sup>53</sup> the *hmnw*, often while standing on a raised deck (*g(z)yt*,<sup>54</sup> *wʿn*<sup>55</sup>) (cf. fig. 1-21). If he does his job badly, he steers his vessel off course (*sbw*).<sup>56</sup>

Minimally a steering oar has two parts: loom or stock (a.k.a. shaft, butt; fig. 6-2.a) and blade (fig. 6-2.b).<sup>57</sup> The stock (*lbʿyt*)<sup>58</sup> may be supported by a crosspiece (possibly *bʿst*)<sup>59</sup> (fig. 6-3).<sup>60</sup> The Egyptian term for the blade is *qnh*,<sup>61</sup> literally “wing,” or perhaps *mht*.<sup>62</sup> Lanyards helped to support the steering oar and acted as relieving tackle (rudder pendants) to prevent the steering oar from swinging too far or as hoists to adjust the depth of the blade in shallow waters. They reeved through holes in the blade (fig. 6-2.d) or looped around the stock (fig. 6-4). The Egyptian term *hmt* may be either blade or stock.<sup>63</sup>

Rudders and some steering oars have tillers (fig. 6-2c), the Egyptian words for which are *hry-*;<sup>64</sup> *nfryt*<sup>65</sup> and possibly *nsʿ* (*nsʿwy*).<sup>66</sup> The “doer” (*lry*),<sup>67</sup> or, in a divine title, “director (*hry*)”<sup>68</sup> of the *nfryt* is the helmsman, and he “pulls” (*sd<l> hr*) the *nfryt*.<sup>69</sup> The determinative for both *hry-* and *nfryt* is a coil of rope . In model boats EM 4880 and 4881,70 the helmsman holds ropes lashed around the steering oars, but whether they are original or a modern reconstruction designed to hold the steering oars (?) in place (the model was provided with no stanchions) is not indicated in publication.

During Dynasties XI<sup>71</sup> and XII,<sup>72</sup> a tiller could be fitted with a 90-degree extension for the helmsman’s grip (fig. 6-5).<sup>73</sup> The Egyptian term for this adaptation has not been identified.

Stanchions, either singly or in pairs, support rudders. The Egyptian word for the stanchion is *wj* or *wjw*.<sup>74</sup> I suspect that *wjs* “pole, support, the gear of a ship”<sup>75</sup> may also be a stanchion, given the form of the determinative . As seen in this determinative, some stanchions possessed a curved piece of wood that aided in the attachment of the rudder (fig. 6-4).<sup>76</sup> The term for this piece may be *krkt*, although several other translations, including “tiller” and “post” have been proposed.<sup>77</sup>

In the New Kingdom, an animal skin could cover the top of the stanchions (fig. 6-6),<sup>78</sup> perhaps to keep the lashings dry.<sup>79</sup> It may have served a ritual purpose as well; well into the twentieth century C.E., Moslem ships of Syrian registry covered the rudder head with an animal hide.<sup>80</sup> There is no firm

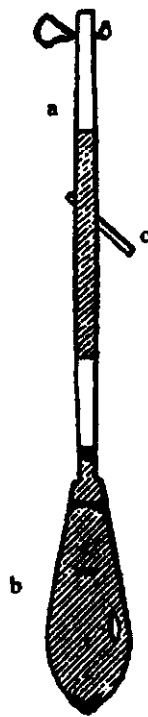


Fig. 6-2. Model rudder (EM 4908). Wood. Middle Kingdom. From Reisner 1913: 63 fig. 225.

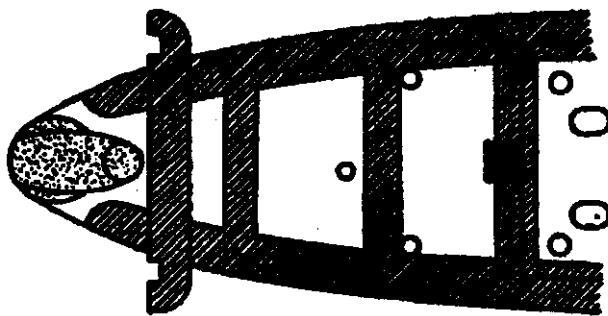


Fig. 6-3. Stern of a model with crosspiece (EM 4917). Wood. Saqqara. Middle Kingdom. From Reisner 1913: 74 fig. 275.

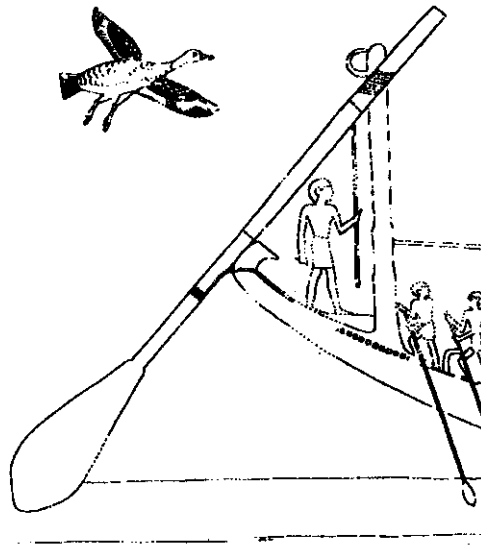


Fig. 6-4. Axial rudder with lanyard. TT 60. Dynasty XII (Senwosret I). From Davies and Gardiner 1920: pl. XVIII.

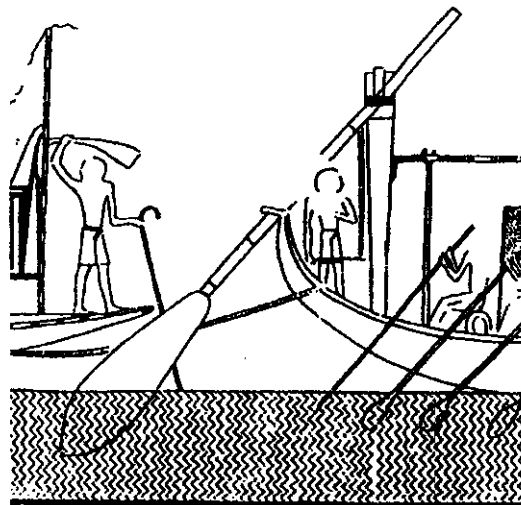


Fig. 6-5. Axial rudder with extension on the tiller. El Bersheh, Tomb of Djehutihotep. Dynasty XII (Senwosret III). From Newberry n.d.1: pl. XVIII.

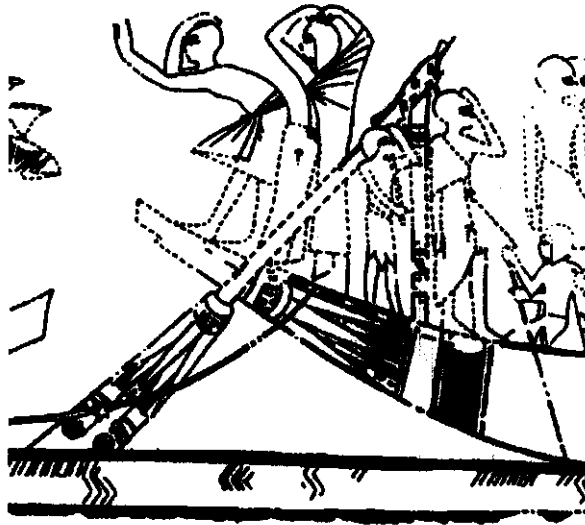


Fig. 6-6. Rudder stanchion covered by an animal hide. Painting. TT 181. Dynasty XVIII (Amenhotep III). From Davies 1925: pl. XIX.

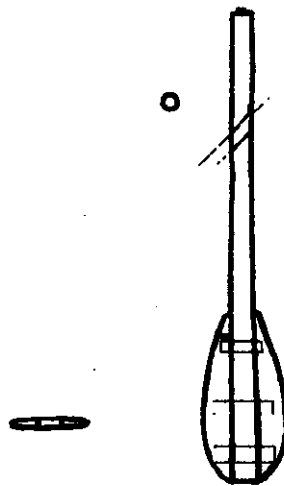




Fig. 6-7. Quarter rudder from the Dashur boat in Chicago. Wood. Dynasty XII (Senwosret III). After Haldane 1984: 31 fig. 14.

or he may “ply” (*tw*)<sup>52</sup> or “arrange” (*ts*)<sup>53</sup> the *hmnw*, often while standing on a raised deck (*gs*)*yt*,<sup>54</sup> *w'n*<sup>55</sup> (cf. fig. 1-21). If he does his job badly, he steers his vessel off course (*sb**n*).<sup>56</sup>

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Rudders and some steering oars have tillers (fig. 6-2c), the Egyptian words for which are *hry*;<sup>64</sup> *nfryt*<sup>65</sup> and possibly *ns'* (*ns'**wy*).<sup>66</sup> The “doer” (*lry*),<sup>67</sup> or, in a divine title, “director (*hry*)”<sup>68</sup> of the *nfryt* is the helmsman, and he “pulls” (*sd<t> hr*) the *nfryt*.<sup>69</sup> The determinative for both *hry*- and *nfryt* is a coil of rope . In model boats EM 4880 and 4881,<sup>70</sup> the helmsman holds ropes lashed around the steering oars, but whether they are original or a modern reconstruction designed to hold the steering oars (?) in place (the model was provided with no stanchions) is not indicated in publication.

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In the New Kingdom, an animal skin could cover the top of the stanchions (fig. 6-6),<sup>78</sup> perhaps to keep the lashings dry.<sup>79</sup> It may have served a ritual purpose as well; well into the twentieth century C.E., some ships of Syrian registry had rudder heads covered with animal hides.<sup>80</sup> There is no firm

boats, models give us further data on the helm, but these must be interpreted cautiously. Models conform to data from ship remains in such details as the manner of fastening the tiller to the stock,<sup>95</sup> and, as mentioned above, the blade to the stock. Nonetheless, they may exhibit a more diamond-shaped cross-section than examples of working rudders (fig. 6-8; cf. fig. 6-7).<sup>96</sup> Whether or not this reflects a variation encountered in working rudders is unclear. Tank tests would be useful to explore the performance of the various forms.

Like the steering oars of the Khufu I ship, many model rudders are carved of a single piece of wood. Eleven model rudders were laid between the outermost shrine and north wall of Tutankhamen's burial chamber (Dynasty XVIII); these, ranging in length from 76 to 83 cm,<sup>97</sup> consist of one piece, with the addition of a tiller. They are painted with a "black, resinous material,"<sup>98</sup> perhaps to intensify their magico-funerary function.<sup>99</sup> Joined examples are also known (fig. 6-9). The stock of the rudder of EM 4943 exhibits a pegged flat scarf (fig. 6-10).<sup>100</sup> The Egyptians may have resorted to such joinery when creating stocks from local woods such as acacia, which are generally available only in short lengths.

Few texts address the construction of rudders. CT 61 states that "Hathor, Lady of Byblos, makes the rudder for your bark."<sup>101</sup> Hathor had a cult center at Byblos, which was a major entrepôt for Egypt in the Levant and the major source for the cedar so prized by the Egyptians for boatbuilding and carpentry.<sup>102</sup>

The flat blades of both steering oars and rudders attracted the decorative attention of artisans. The steering oars of the Khufu I vessel are each incised with an arrow,<sup>103</sup> a modest ornamentation when compared to later examples. When Rameses III bestowed a new sacred barque on the temple of Amon, it was recorded that its two rudders were "[wrought] in fine gold."<sup>104</sup> The "standard" motif is a lotus painted on the upper half of blade, with the stock serving as the stem, while the lower half may be either solid-colored or sport another lotus-pattern (fig. 6-9). Rosettes are common (fig. 2-3, fig. 6-9), as is the wadjet (eye of Horus) (fig. 6-6). Although common on models and paintings, these details are often absent in reliefs, which have frequently lost their painted decoration.<sup>105</sup>

The decorated blade distinguished a steering oar from a rowing oar; so it was with a rudder,



Fig. 6-8. Model quarter rudder (EM 4819). Wood. Middle Kingdom? From Reisner 1913: 22 fig. 94.



Fig. 6-9. Half of a model rudder blade (EM 4938). Wood. Middle Kingdom? From Reisner 1913: 95 fig. 345.





Fig. 6-10. Model quarter rudder with joined stock (EM 4801). Wood. Meir. Middle Kingdom. From Reisner 1913: 6 fig. 24.

probably emblematic of the divine steering oars (and therefore power) discussed above, with which the king ran in festivals (fig. 2-3).

## STEERING OARS OF THE PREDYNASTIC PERIOD

In the Predynastic Period, the helmsman seems to have sat, either on deck or on a thwart, and held the steering-paddle in his hands. His far hand is placed higher, his near hand lower, on the loom, and he generally resembles a paddler, except that his paddle is longer and has a larger blade (fig. 6-11). On rare occasion the helmsmen stand, as in the case of a petroglyph that may be Protodynastic (fig. 6-12), as it closely parallels Old Kingdom steering arrangements (cf. fig. 4-4). This suggests undecked boats, with the steersman sitting on a thwart like a paddler (or rower), or at the very least standing in the hold. Predynastic images of boats do not often include the helmsman; just as oars or paddles may stand for rowers or paddlers, so the presence of one or more steering oars (fig. 4-2) may suffice to indicate the helmsman.<sup>106</sup>

Helmsmen are, on the other hand, more frequently represented than paddlers, and are outsized in relation to other crewmen, undoubtedly an indication of status or in connection with the concept that, whatever the means of propulsion, the boat must be under control.

## STEERING OARS OF THE OLD KINGDOM

A comparably primitive means of controlling a vessel, steering oars continued to be used during the Old Kingdom (figs. 1-13, 1-14, 1-20, 1-21, 4-4, 6-13). Due to their relative inefficiency, two or more helmsmen might be needed to control a boat.

The number of helmsmen has been debated: did the draftsmen portray all of them or only those on the visible side of the vessel? Reisner,<sup>107</sup> Graser,<sup>108</sup> Boreux,<sup>109</sup> and Edgerton<sup>110</sup> believe that the draftsman portrayed half the helmsmen, and that an equal complement, not illustrated, operated on the other side. This is borne out by the steering oars of the Khufu I vessel, although it does not preclude all the helmsmen (and perhaps helmsmen in excess) being shown in two-dimensional representations, regardless of their actual stations. Five pairs of helmsmen for the sailing vessel in fig. 1-21, for

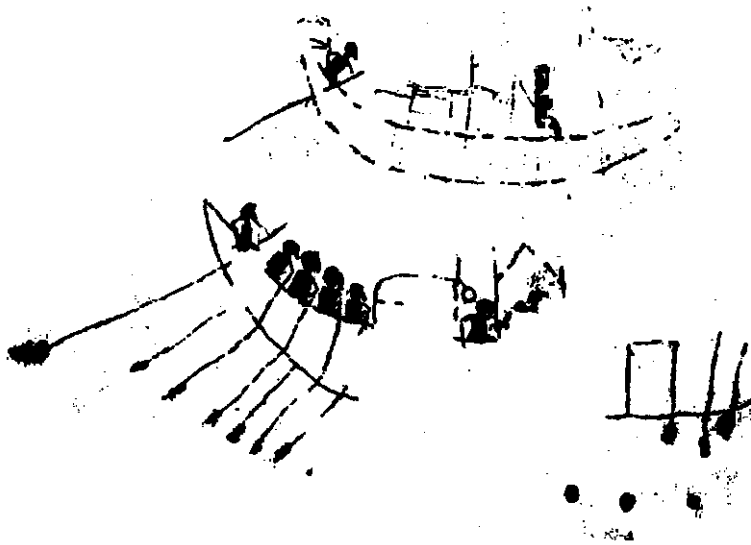


Fig. 6-11. Boats. Painted linen. Gebelcin. Gerzean Period. After Aldred 1982: 39 fig. 28.



Fig. 6-12. Boat. Painting. Korosko, Nubia. Pre- or Protodynastic? After Dunbar 1941: pl. XXIV fig. 161.

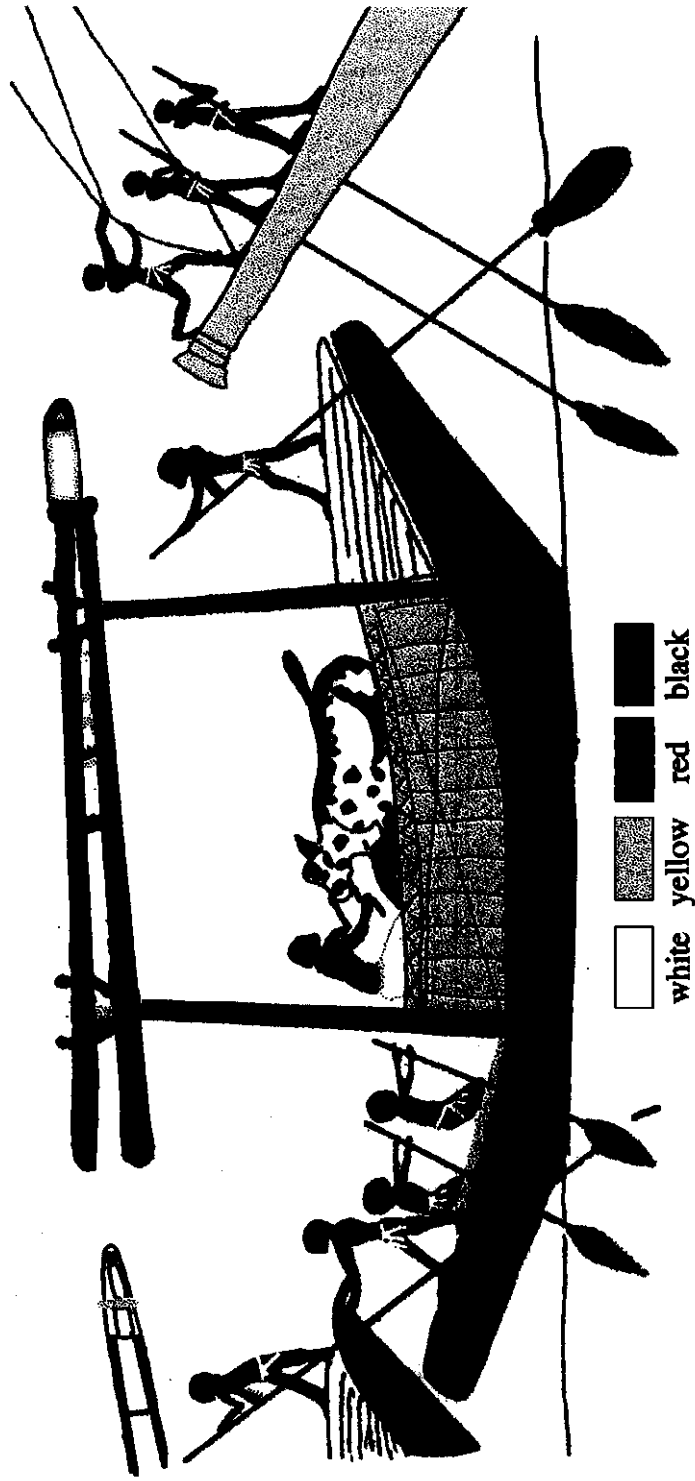


Fig. 6-13. Cargo boats and a traveling vessel. Background: pale blue-grey; water: blue. Painting. Giza, tomb of Kaemankh. Dynasty VI. After Davies and Gardiner 1936.1: pl. III and Junker 1929-43.4: pls. V, VI.

example, seems inordinate when compared to the two (pairs?) shown in the nearly identical boat in fig. 6-14, and the single pair of the Khufu I vessel (fig. 1-20).

Boreux suggested that the precursor to this double arrangement was to have the helmsman (or helmsmen) move bodily from one side of the vessel to the other.<sup>111</sup> There is, in fact, no need except on larger vessels for steering oars to be mounted on both sides. The *dinghis* of the Ganges, which share fascinating similarities with pharaonic Egyptian craft in general form, have but a single steersman.<sup>112</sup> Several Old Kingdom reliefs clearly show helmsmen with all steering oars positioned over the far side (fig. 6-13, right), and there are boats and rafts too small to have carried more than a single helmsman (fig. 6-15).

The appearance of such an arrangement may arise accidentally as well. In the tomb of Kaemankh, the steering oar passes on the far side of both hull and helmsman, but on the near side of the cabin on which he stands (fig. 6-13, left).<sup>113</sup> An examination of the facsimile painting reveals what has happened: the draftsman painted (or left) the cabin white; then he painted the outlines, including the thin line that forms the loom of the steering oar, and finally filled in broader areas such as the hull, painting over the loom in the process. Rowing oars are similarly treated.

Such artistic conventions and errors should not be confused with those vessels that have their steering oars pass inboard of projecting wings<sup>114</sup> at the stern (fig. 4-5). The steering gear of these vessels is discussed below.

The lower portion of a hull and eight steering oars, at least two of which are shipped on the far side, appear in a fragment from the Causeway of Unas at Saqqara (Dynasty V) (fig. 1-14). Below is a register of transport-ships, of which the stern of one is visible. Four steering oars are shipped on the far side. Few boats carry more than two pairs of helmsmen. The seagoing vessels of Sature and Unas have three (pairs?; fig. 6-16), but so do some paddled papyriform boats of the Old Kingdom (fig. 6-17) and especially "hedgehog" boats (fig. 4-4). The sacred Henu-barque of the funerary god Sokar appears to have three (pairs of?) steering oars.

Usually in the Old Kingdom, as in the Predynastic Period, the helmsmen occupied the deck, although they also stationed themselves on the roof of a stern cabin (figs. 1-13, 6-13). Sometimes a platform provides them with relatively level footing if the ship exhibits particular sheer toward the stern (fig. 6-14). On rare occasion they occupy such a deck seated (fig. 6-18), a position that becomes more

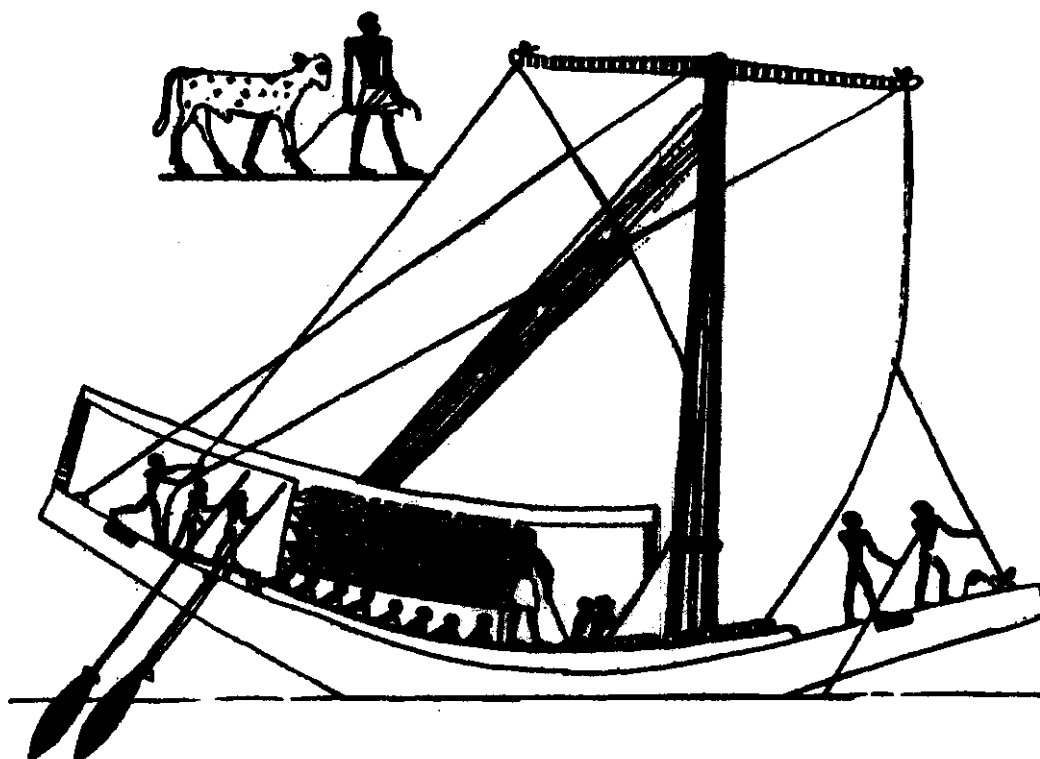


Fig. 6-14. Traveling vessel. Giza, Tomb of Kacmankh. Dynasty VI. After Junker 1929-43.4: pl. 3.



Fig. 6-15. Papyrus raft. Giza, Tomb of Nisutnefer. Dynasty V. After Junker 1929-43.3: 167 fig. 29.

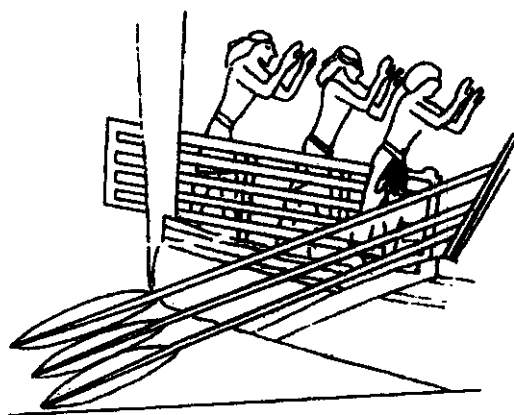


Fig. 6-16. Stern of a seagoing ship. Relief. Giza, Causeway of Unas. Dynasty VI (Unas). After Hassan 1954: 139 fig. 2.

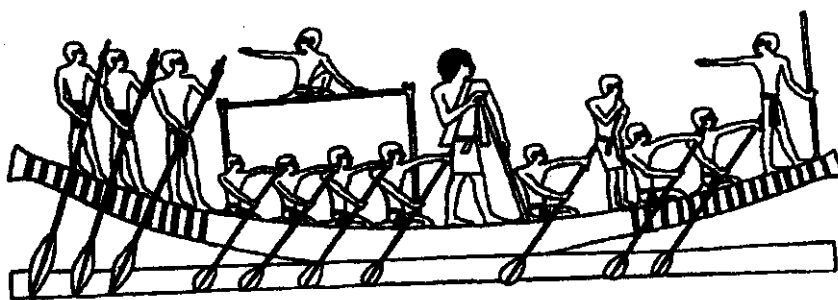


Fig. 6-17. Paddled papyriform boat or raft. Giza, Tomb of Kanenisut I. Early Dynasty V. After Junker 1929-43.2: 156 fig. 22.



Fig. 6-18. Boat ferrying cattle. Relief. Tomb of Akhethotepher. Dynasty V. From Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 56 fig. 164.



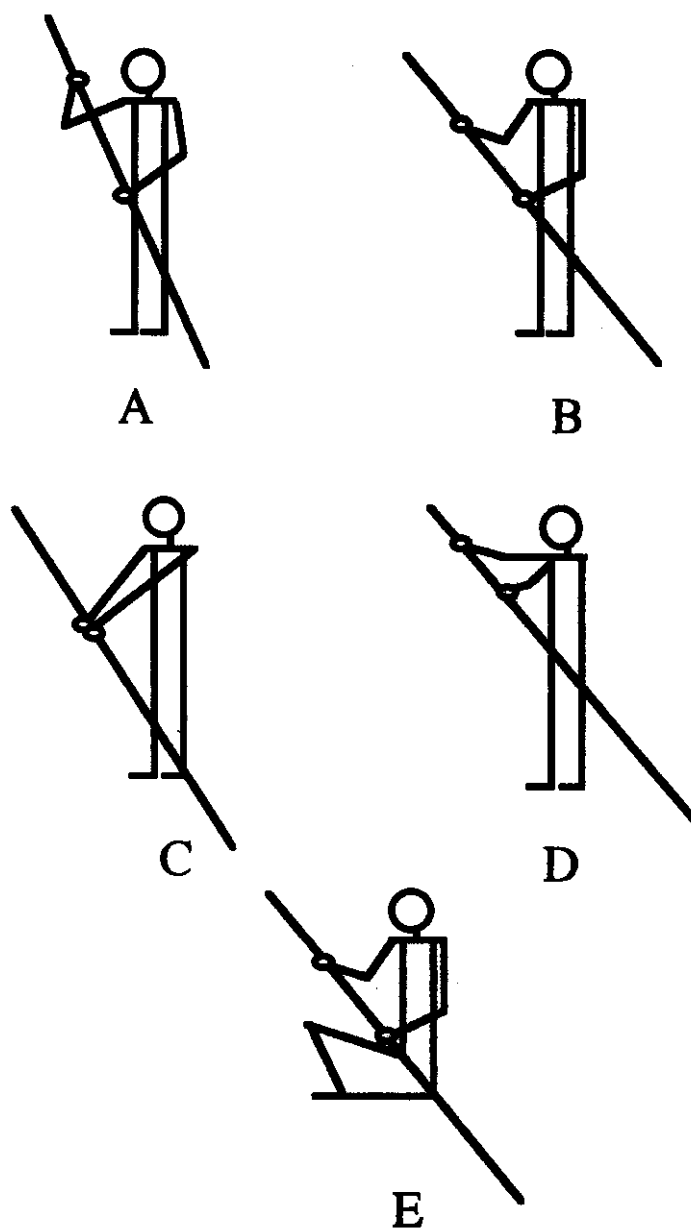
common with the introduction of the tiller, as will be discussed below. Some schematized representations of the positions which draftsmen employed for helmsmen appear in fig. 6-19.

Helmsmen operating steering oars always face forward. Unless unoccupied with steering, as, for example, the men aboard the seagoing ships of Sahure and Unas (fig. 6-16), who are bowing to the king, they do not engage in other activity.

Most illustrations of steering oars do not indicate any means by which the steering oar might have been attached to the hull. This was among the issues that prompted Boreaux to call "the problem of the helm. . . perhaps the most troubling of all those raised in the study of Egyptian boats of the Old Kingdom."<sup>115</sup> Boreaux did not understand how the helmsman, using steering oars, could have effected the course of the vessel by mere "strength of wrist," without the benefit of any kind of support.<sup>116</sup> This presupposes that the draftsmen were accurate in their representations. There exists ample evidence, from both the Khufu I vessel and two-dimensional representations, that the helmsman did not rely exclusively on his own strength to support the steering oar.

Although often omitted (figs. 1-13, 1-14, 1-21, 4-4 6-13, 6-14, 6-16, 6-17), in many illustrations a lanyard loops around the loom, just above the blade, and runs back to a grommet attached to the hull, through which the steering oar passed (fig. 6-18). To support the steering oars the Khufu I vessel has a crosspiece (fig. 1-20),<sup>117</sup> often missing from two-dimensional representations (figs. 4-4, 6-13, 6-14, 6-16, 6-17). "Rope deck beams" reeved through seven pairs of holes in the sheer strake of the after quarter of the Khufu I vessel helped to distribute the stress created by the operation of the steering oars.<sup>118</sup> The steering oars in the Khufu I reconstruction have been lashed abaft the crosspiece, but reliefs show them forward of it (fig. 6-20).

Boreaux believed that, given the awkwardness of the steering gear, voyages must have been of short duration.<sup>119</sup> However, the seagoing fleets of Sahure and Unas (Dynasty V) utilized steering oars (fig. 6-16), as would have the "forty-two ships filled (with) cedar wood" from the Levant for Sneferu (Dynasty III).<sup>120</sup> Particularly with the mechanical aid of lanyards, grommets, and crosspieces, their utility should not be underestimated.



**Fig. 6-19. Schematic representations of helmsmen operating steering oars, from two-dimensional sources. Predynastic Period (\*) and Old Kingdom. A: After figs. 4-4, 6-13 (boat on right), 6-20. B: After figs. 1-13, 6-11\*. C: After figs. 6-12\*. D: After fig. 6-13 (boat on left). E: After fig. 6-18.**

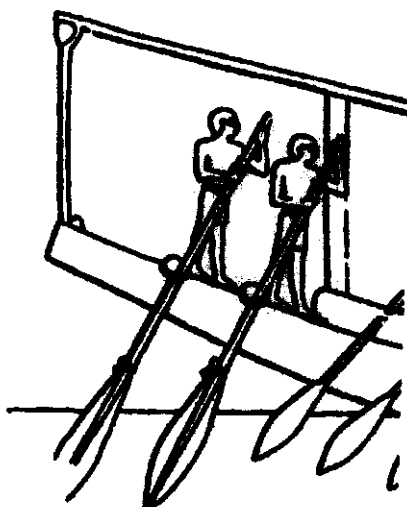


Fig. 6-20. Helmsmen working steering oars forward of crosspieces. Relief. Giza, Tomb of Ty. Late Dynasty V. From Épron, Daumas, Goyon and Montet 1939: pl. XLIX.

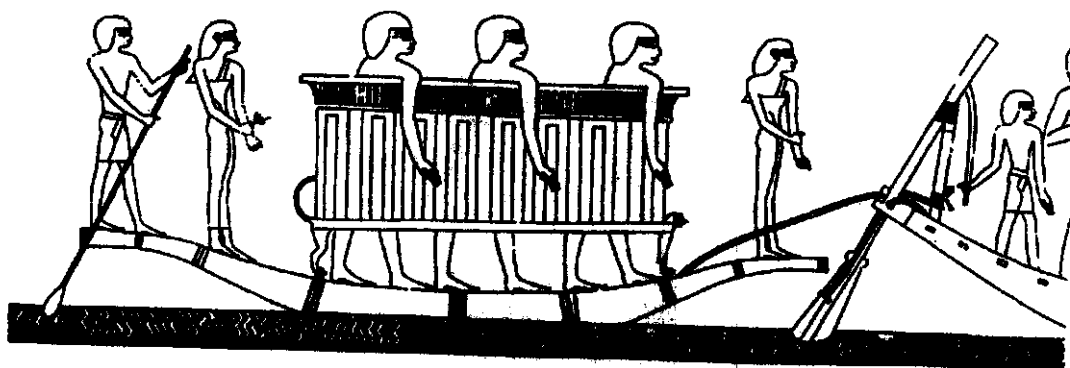


Fig. 6-21. Towed funerary barge or raft. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. LXXXVII.

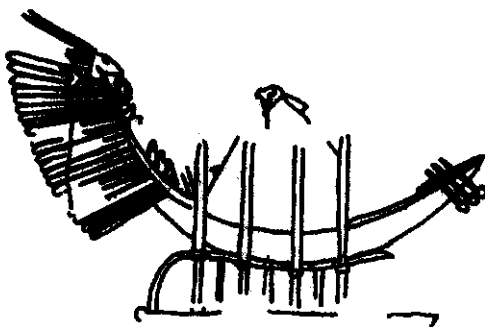


Fig. 6-22. *Hw*-barque of Sokar. Relief. Dynasty XIX (Rameses III). After Gaballa and Kitchen 1969: pl. I.

## STEERING OARS OF THE MIDDLE AND NEW KINGDOMS

Steering oars continued to be employed until the end of Dynasty V.<sup>121</sup> Thereafter aboard wooden boats they were a deliberate archaism relegated to vessels intended to invoke a divine or netherworldly context. The unusual funerary raft or papyriform barge of Rekhmire (Dynasty XVIII) has a steering oar (fig. 6-21). The three steering oars of the sacred Henu-barque of the funerary god Sokar, traditional even in Protodynastic times, are always without stanchions, and by later periods degenerated into objects resembling shovels (fig. 6-22).

## STEERING OARS WITH TILLERS

Seaworthiness notwithstanding, the steering oar in use during Sahure's time demanded improvements, and at some point it occurred to a shipwright to affix a handle to the loom of the steering oar, thereby inventing the tiller. This early tiller is fixed quite near the end of the loom, passing through it so as to form a symmetrical or asymmetrical T. It could be long or short. Although Boreux reported a tiller in one of the vessels in the painted tomb of Hierakonpolis,<sup>122</sup> this device actually appeared for the first time during Dynasty V, after the reign of Sahure, perhaps during that of Sneferu.<sup>123</sup> Even aboard traditionally archaic papyriform funerary barges the tillered steering oar replaced the old oar held in hand (fig. 6-23), although helmsmen may now sit (fig. 6-24) more frequently than they stand. As before, draftsmen usually omitted the means by which these steering oars are attached to the hull, although a tiller is of use only when the loom has a point of pivot, but some scenes clearly show a lanyard in use (fig. 6-25).

The tiller ushered in another innovation: the stern-mounted steering oar. This became, and in one form or another remained, the steering gear of choice for cargo boats during the pharaonic period. Steering oars may have been fastened to curved or straight timbers that project up from each corner of the flat stern (fig. 6-26). Other boats had outboard wings and transoms extending the stern (figs. 6-27, 6-28). Some of the models have beams to which the steering gear might be fastened (figs. 6-28). Reliefs show steering oars, such as on the boat in fig. 4-5, but an identical boat in the same scene has the

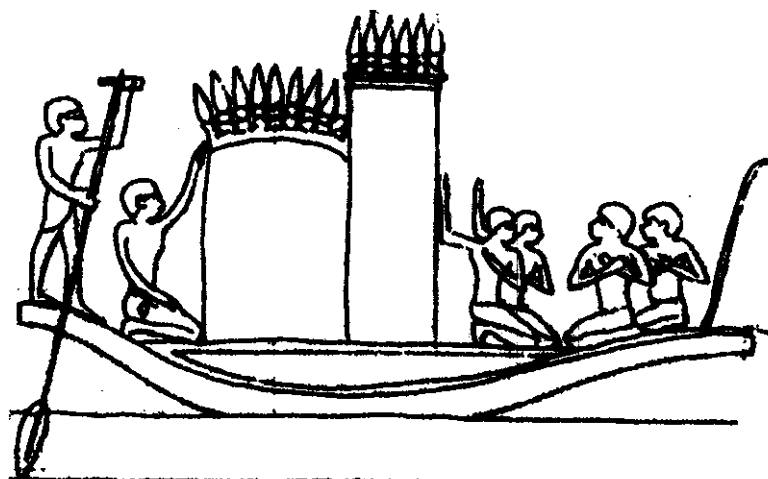


Fig. 6-23. Towed funerary barge. Relief. Saqqara, Tomb of Iyzefa. Old Kingdom. After Lepsius 1849-59.4: pl. 101b.

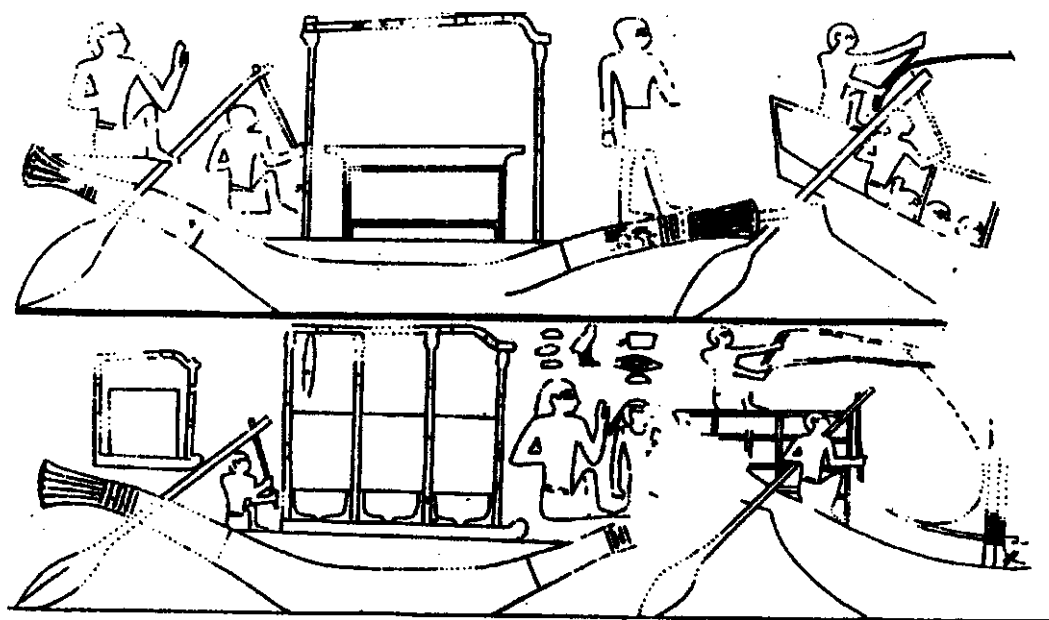


Fig. 6-24. Funerary procession. Painting. Deir el-Gebrawi, Tomb of Ibi. Dynasty VI. From Davies 1902.2 pl. X.

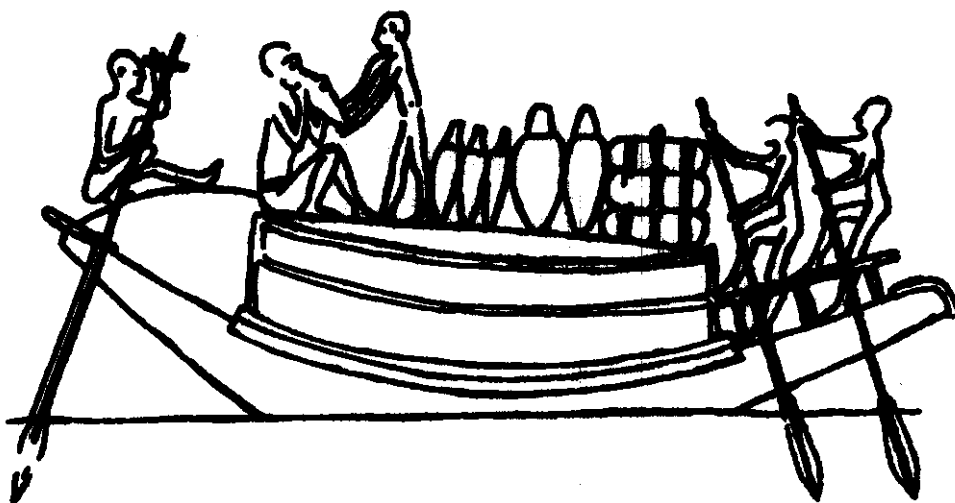


Fig. 6-25. Cargo boat. Dynasty V. After Landström 1970: 60 fig. 176.

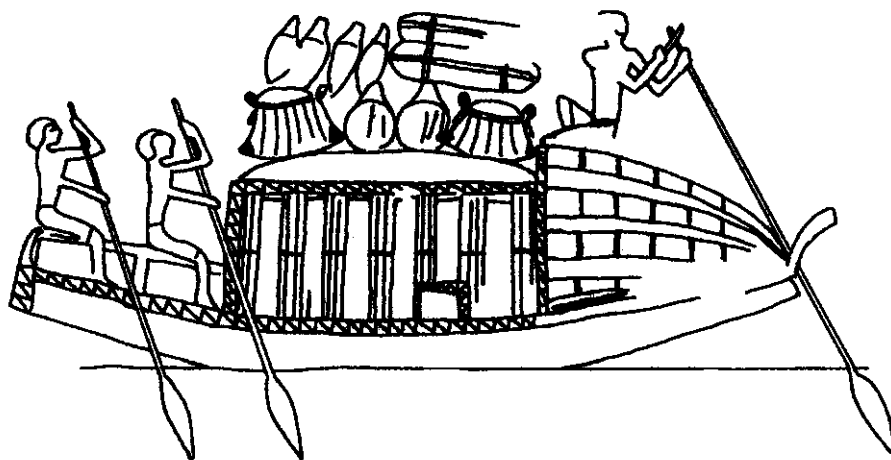


Fig. 6-26. Cargo boat. Dashur. Dynasty V. After Landström 1970: 60 fig. 175.

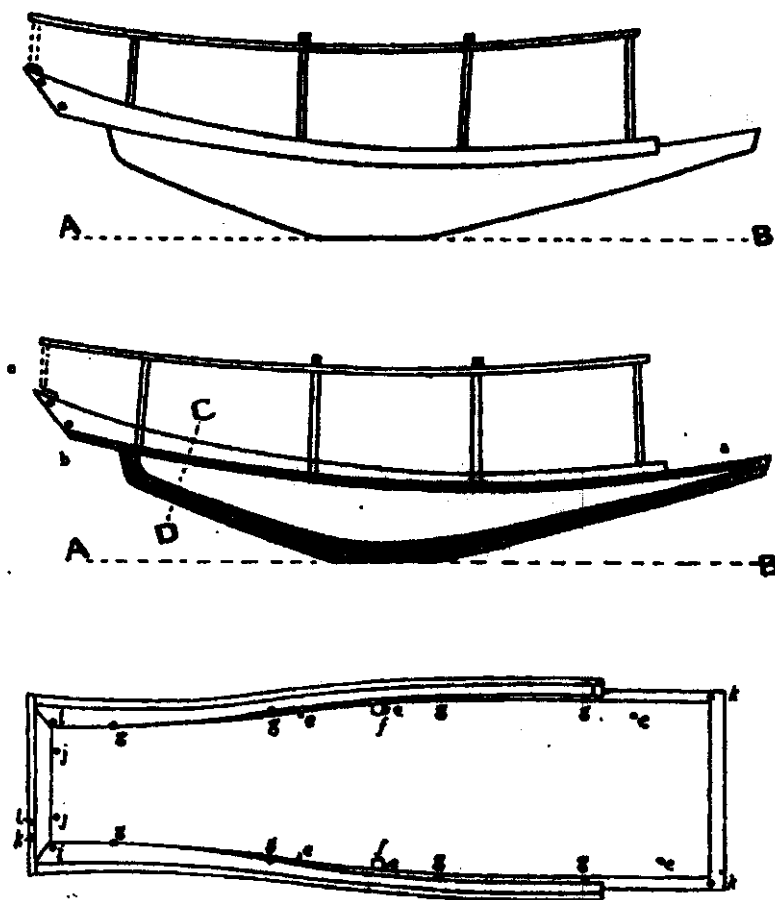


Fig. 6-27. Model boat with wings and transom (EM 4886). Wood. Meir, Tomb of Pepyankh called Heny the Black. Dynasty VI. From Reisner 1913: 56 figs. 199-200.

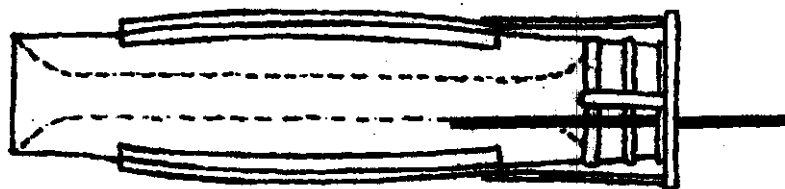


Fig. 6-28. Top view of a model boat with wings and transom (EM 56395), showing the hypothetical placement of a steering oar. Wood. Dynasty VI. After Landström 1970: 47 fig. 127.

steering oar apparently mounted on the quarter (fig. 6-29). This is an error by the draftsman, who also erred in the arrangement of the steering-oar stanchion, or more likely the sculptor, who probably over-zealously carved the full length of the draftsman's line, rather than leaving that portion intended to be inboard of the wing uncut. This error may have been then corrected in paint or plaster.

A helmsman who stands at the quarters holds the tiller with his far hand, the loom of the steering oar with his near (fig. 6-23). The seated helmsman may hold the tiller with one or both hands. Once, the draftsman missed his mark and extended the arm so that the helmsman grasps not the tiller but the mast crutch (fig. 6-30).<sup>124</sup> Some of the positions given helmsmen operating steering oars with tillers are schematized in fig. 6-31.

Some helmsmen grip the tiller with both hands (fig. 6-32). Vandier does not consider this to be a proper tiller and calls it instead a *traverse*.<sup>125</sup> Although this tiller appears to extend vertically from the loom, the helmsman's use of both hands suggests that it extended horizontally, that is, athwartship and parallel to the deck, and was held rather as one might grasp the handlebars of a bicycle. This device, which confounded Edgerton,<sup>126</sup> is not unique to Old Kingdom Egypt. C. W. Bishop records the use of such a tiller aboard Chinese dragon boats on the Yangtze River (fig. 6-33).

## RUDDERS OF THE OLD KINGDOM

Edgerton observes that the helmsman seems to have steadied the steering oar on the mast crutch, which is used to support the unstepped mast and yard (cf. fig. 3-30).<sup>127</sup> By Dynasty VI, the next logical step appeared: a stanchion devoted to the steering oar itself (figs. 4-5, 6-34, 6-35), introducing a fixed axis and therefore the rudder, which improved control<sup>128</sup> and all but eliminated the need for more than a pair of helmsmen.

The draftsman summarily treated the means by which the rudders are fastened to stanchions. In fig. 6-34 lashings hold the stock to the stanchion. In other cases, the stock seems to pass through a loop of rope reeved through an eye in the stanchion (fig. 4-5).<sup>129</sup> In fig. 4-5, the stock does not appear to be held in place by the stanchion, but is merely supported by it. If this is so, it represents an intermediate step between the tillered steering oar and the rudder.



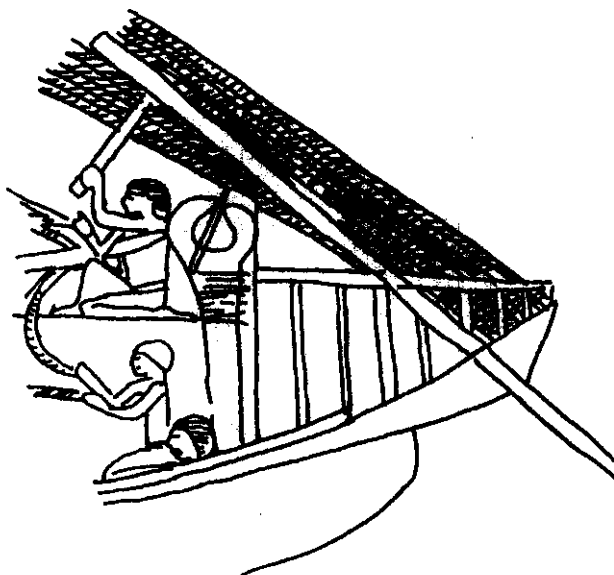


Fig. 6-29. Stern of cargo boat. Relief. Saqqara, Tomb of Ipy. Dynasty VI. After Vandier 1969.2: pl. XXXIX fig. 301.

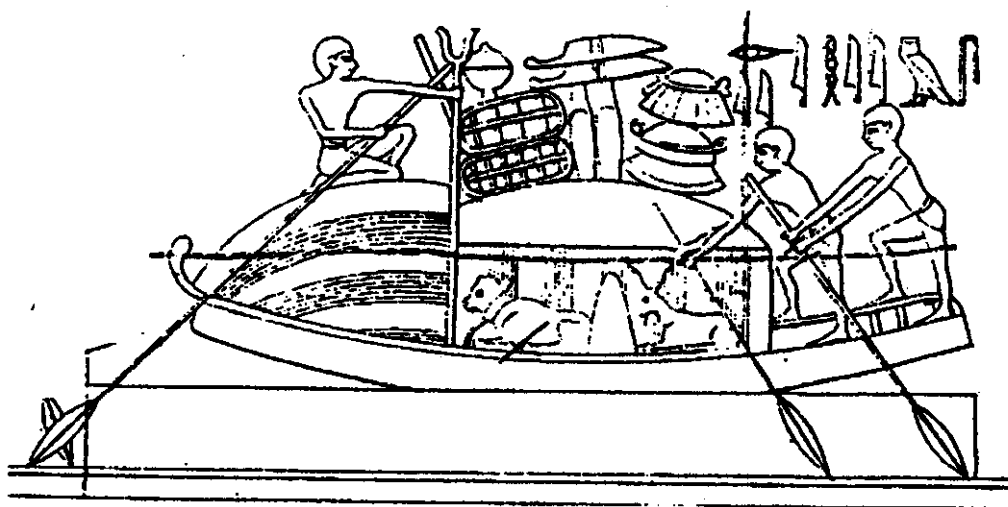


Fig. 6-30. Cargo boat. Relief. Saqqara, Tomb of Ptahhotep. Mid-Late Dynasty V. From Lepsius 1849-59.4: pl. 104b.

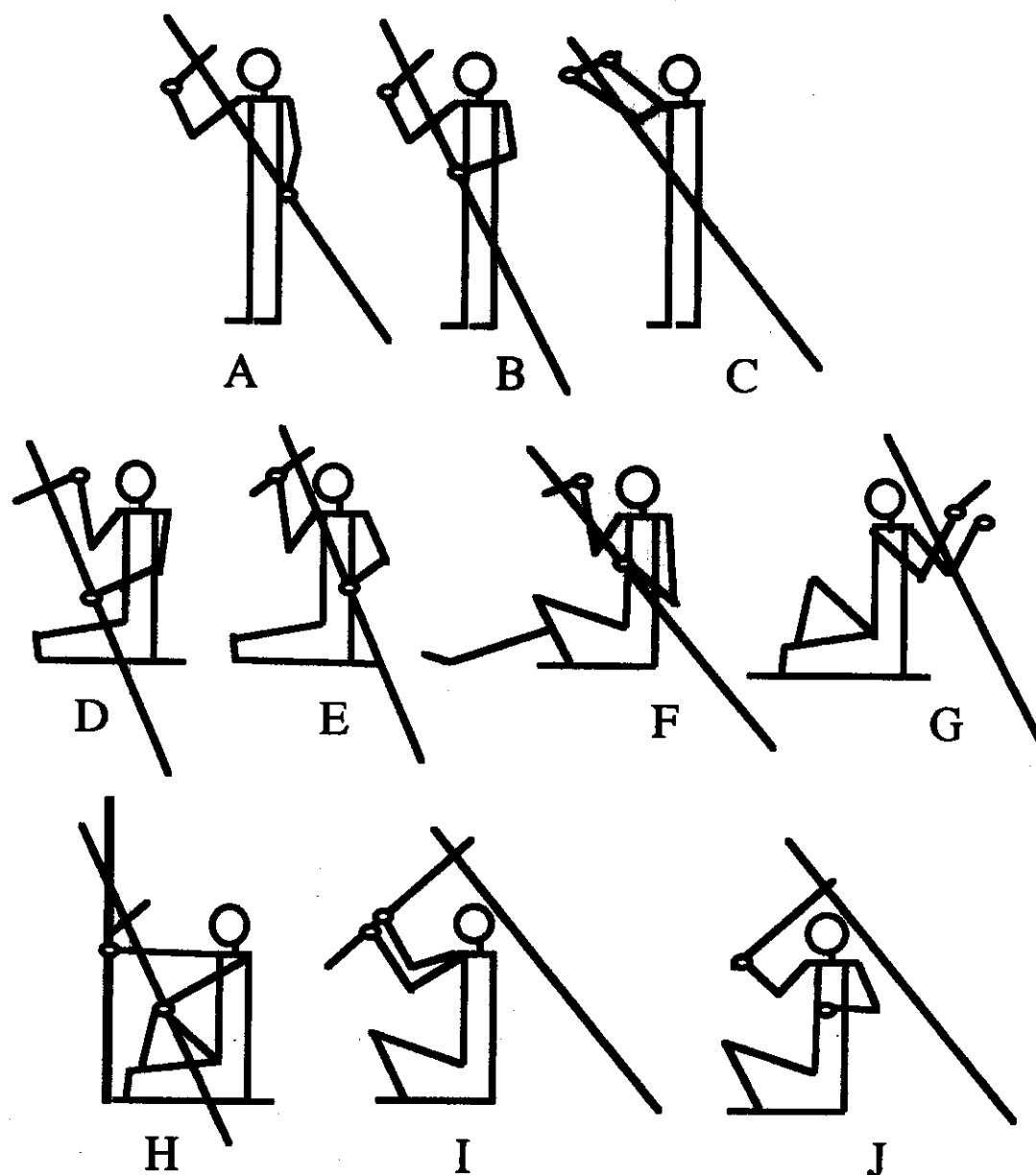


Fig. 6-31. Schematic representations of helmsmen operating steering oars with tillers, from two-dimensional sources. Old Kingdom. A: After fig. 6-23. B: After fig. 6-32 (helmsman on left). C: After fig. 6-32 (helmsman on right). D: After fig. 7-40 (boat 5). E: After fig. 7-40 (boat 4). F: After fig. 6-25. G: After fig. 6-26. H: After fig. 6-30. I: After fig. 6-24 (lower register, boat on left). J: After fig. 6-24 (upper register, both boats; lower register, boat on right).

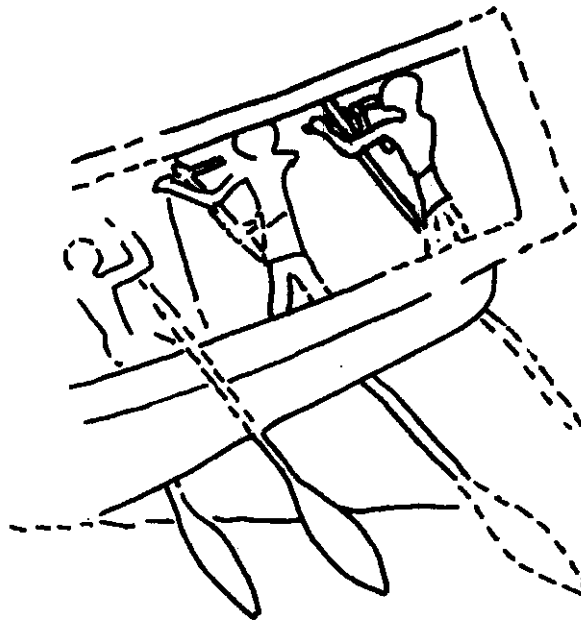


Fig. 6-32. Helmsmen operating steering oars with tillers. Dashur, Tomb of Sneferu-ani-mertef. Dynasty V? After Edgerton 1927: 260 fig. 5.



Fig. 6-33. Helmsman and paddlers aboard a Chinese dragon boat. Early twentieth century C.E. After Bishop 1938: pl. 2 fig. 4.

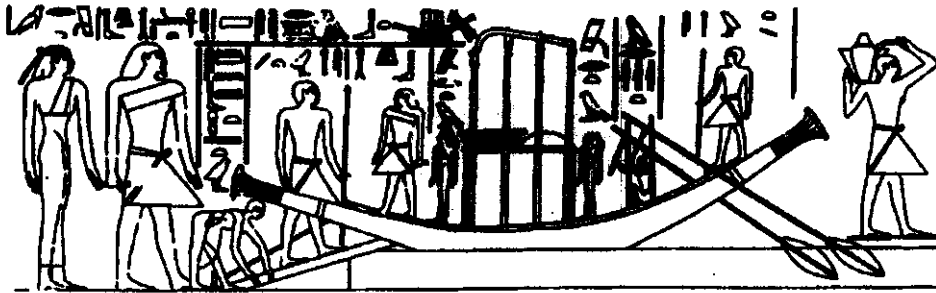


Fig. 6-34. Funerary barge moored. Drawing. Meir, Tomb of Pepiankh called Heny the Black. Dynasty VI. From Blackman and Apton 1914-53.6: pl. XLIII.

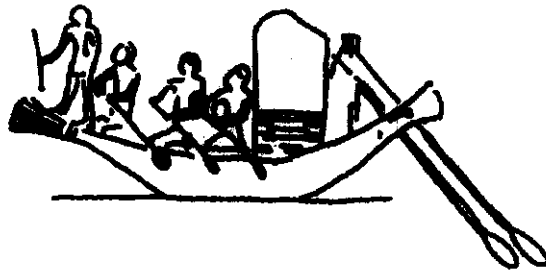


Fig. 6-35. Funerary barge. Painting. Deshasha, Sarcophagus of Mery. Dynasty VI. After Vandier 1969.2: 694 fig. 279.3.

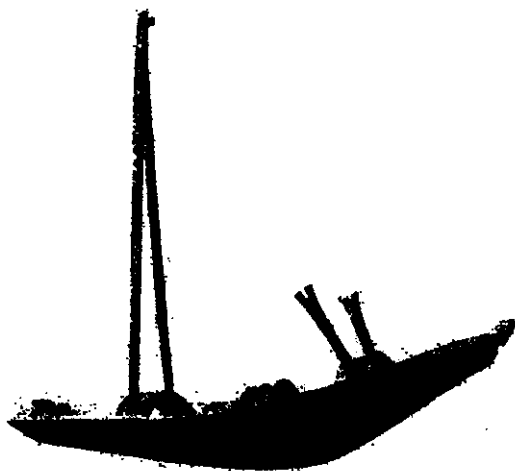


Fig. 6-36. Model boat (EM 4882). Wood. Meir. Dynasty VI (Pepy II). From Reisner 1913: pl. XIII.

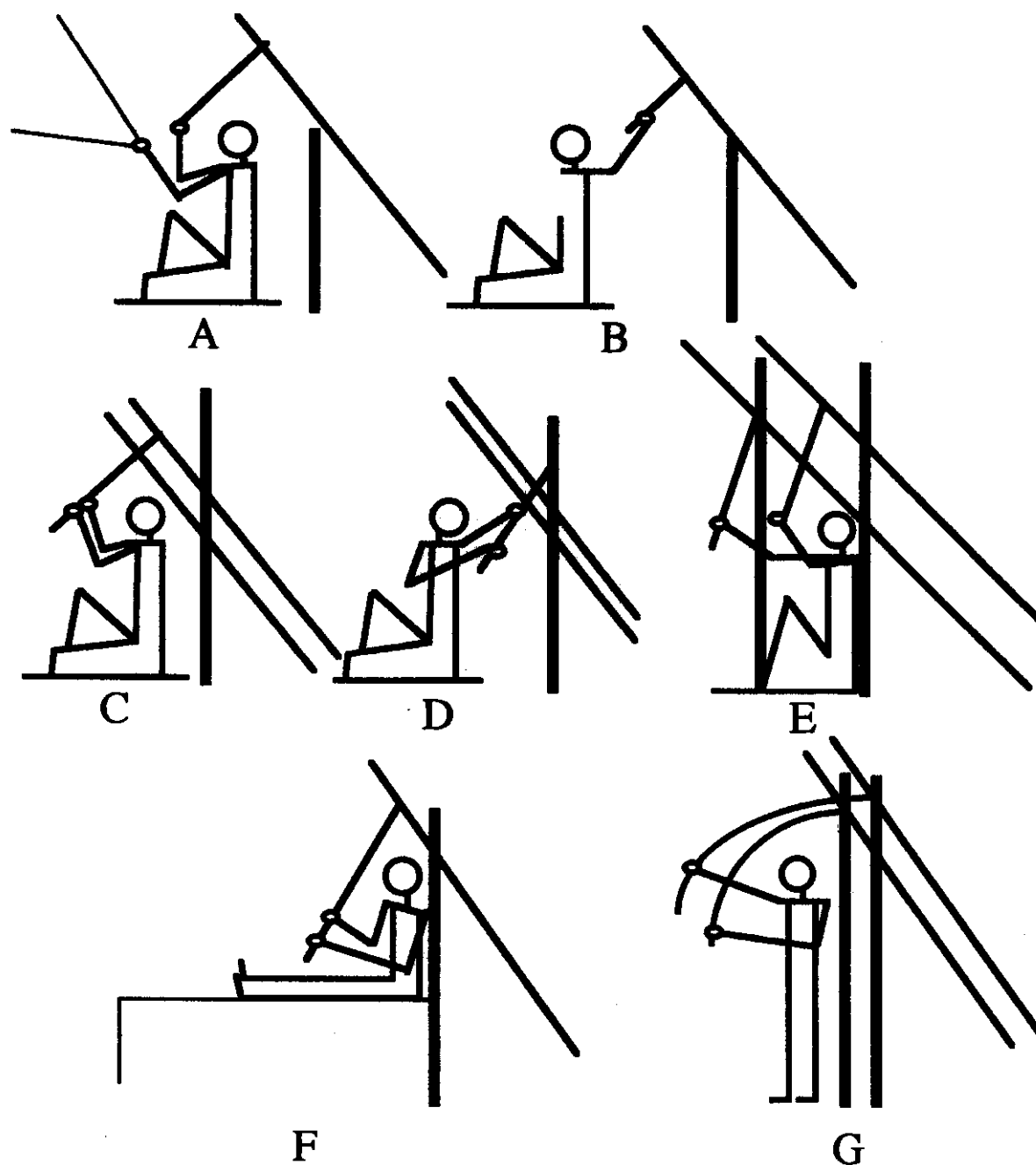


Fig. 6-37. Schematic representations of helmsmen operating rudders, from two-dimensional sources. Old Kingdom. A. After fig. 6-29. B. After fig. 4-5. C. After fig. 6-40 (tow-boat). D. After fig. 6-40 (barge). E. After fig. 6-34. F. After Davies 1909.2: pl. VII (bottom register, second boat from left). G. After Blackman and Apted 1914-53.6: pl. XLII (barge on left).

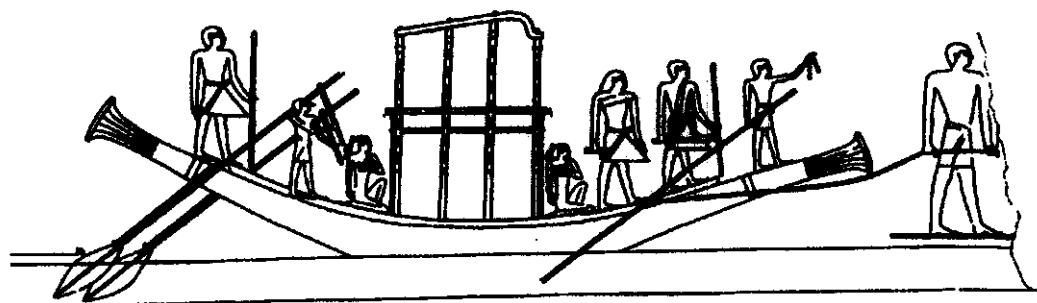


Fig. 6-38. Funerary barge towed from shore. Drawing. Meir, Tomb of Pepyankh called Heny the Black. Dynasty VI. From Blackman and Apted 1914-53.6: pl. XLIII.

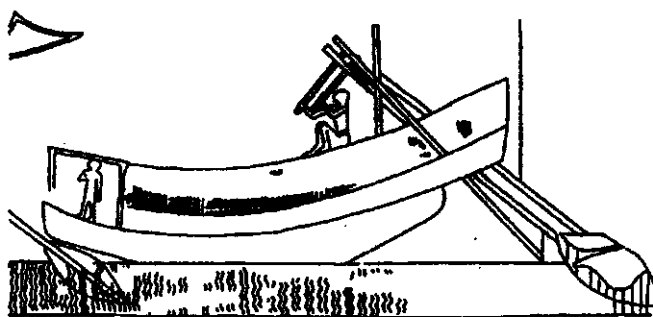


Fig. 6-39. Boat. Meir, Tomb of Pepyankh called Heny the Black. Dynasty VI. From Blackman and Apted 1914-53.6: pl. XXII.

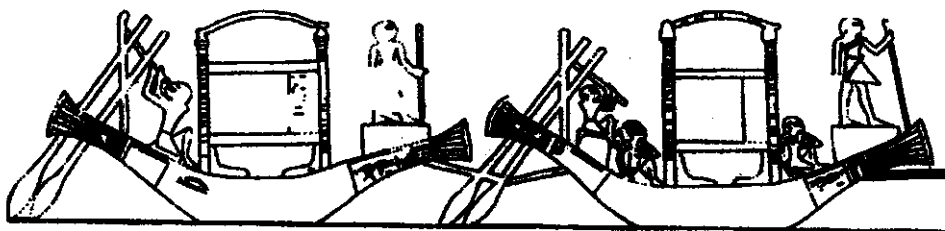


Fig. 6-40. Funerary barges. Deir el Gebrawi, Tomb of Djau. Dynasty VI. From Davies 1902.2: pl. VII.

Draftsmen may depict two stanchions (fig. 6-34) or only one (fig. 4-5), although in the latter case both rudders may appear (fig. 6-35). Models from this period have two stanchions (fig. 6-36). Like steering oars, rudders may be mounted over the stern (fig. 4-5) or at the quarters (figs. 6-34, 6-35). In the latter case, crosspieces were probably used, but they do not appear in two-dimensional representations.

Tillers tend to be long and hang forward of the stanchion, before which the helmsman sits. Some positions of helmsmen working rudders in the Old Kingdom appear in fig. 6-37. With the aid of stanchions, a helmsman could work two rudders simultaneously or handle the tiller and braces as well.

The draftsman occasionally erred by omitting the stanchions, even when depicting the same boat in the same scene (figs. 6-34, 6-38). In fig. 6-34, the rudder mounted on the far quarter is on the near side of both the stanchion and the tiller of the rudder on the near quarter; both stanchions are on the far side of the helmsman. The draftsman (or perhaps team of draftsmen) became similarly confused elsewhere, as in fig. 6-39, in which the boat has a single stanchion for *three* rudders. (Note that these come from the same tomb and presumably the same team of draftsmen.) In other instances, the draftsman failed to fully associate the rudder with the stanchion; the stock may angle so that it misses any contact with the stanchion (fig. 6-37). Both rudders may appear on one side of the vessel, and a single tiller may suffice for two rudders (fig. 6-40). There is no need to interpret these images at face value, as Boreux has done with fig. 6-40.<sup>130</sup> They are only early examples in a long line of artistic errors that persisted long after the rudder stanchion had been *de rigueur* for centuries (cf. fig. 4-15, p. 70).

## QUARTER RUDDERS OF THE MIDDLE KINGDOM

The Middle Kingdom provides a relative wealth of three-dimensional information on quarter rudders in the form of both models and actual boats. The concept of the system was as it had been during the Old Kingdom: rudders mounted on stanchions and supported at the quarters by crosspieces (figs. 1-23, 6-3, 6-41). The lanceolate blade typical of the Old Kingdom was by now replaced by a range of broader, blunter shapes, some of which were flat-ended (fig. 6-7), while others retained some taper (figs. 6-5, 6-8, 6-41).

Typically quarter rudders were mounted in pairs. In the models of Meketre (Dynasty XI), each

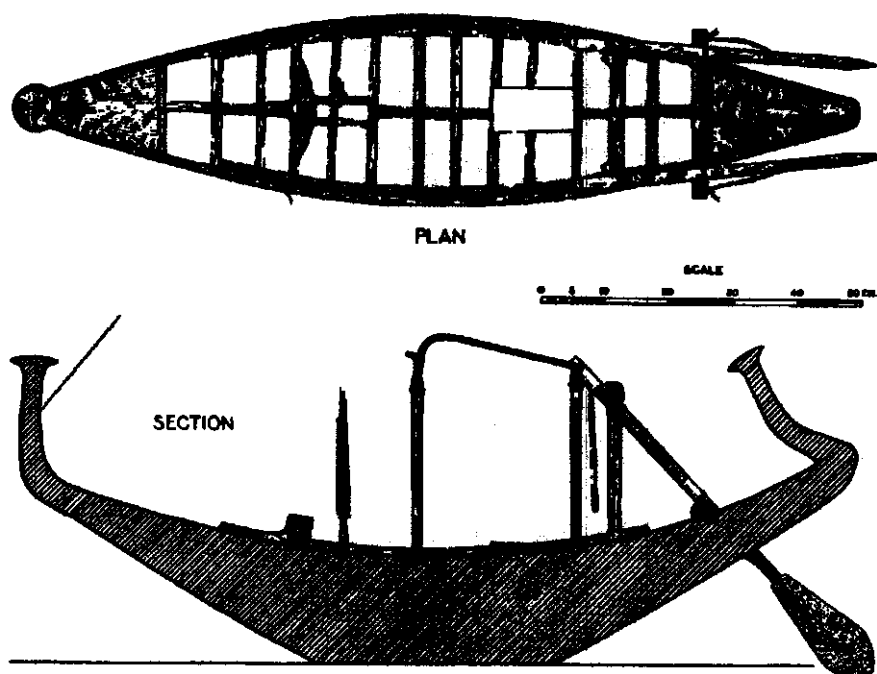


Fig. 6-41. Yacht V. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II). From Winlock 1955: fig. 80.

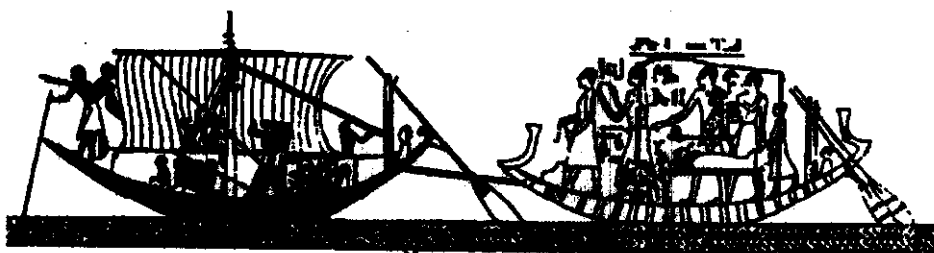


Fig. 6-42. Sailing ship towing papyrusiform funerary barge. Beni Hasan, Tomb of Khnumhotep. Dynasty XII (Sensworet II). From Newberry 1893-94.1: pl. XXIX.



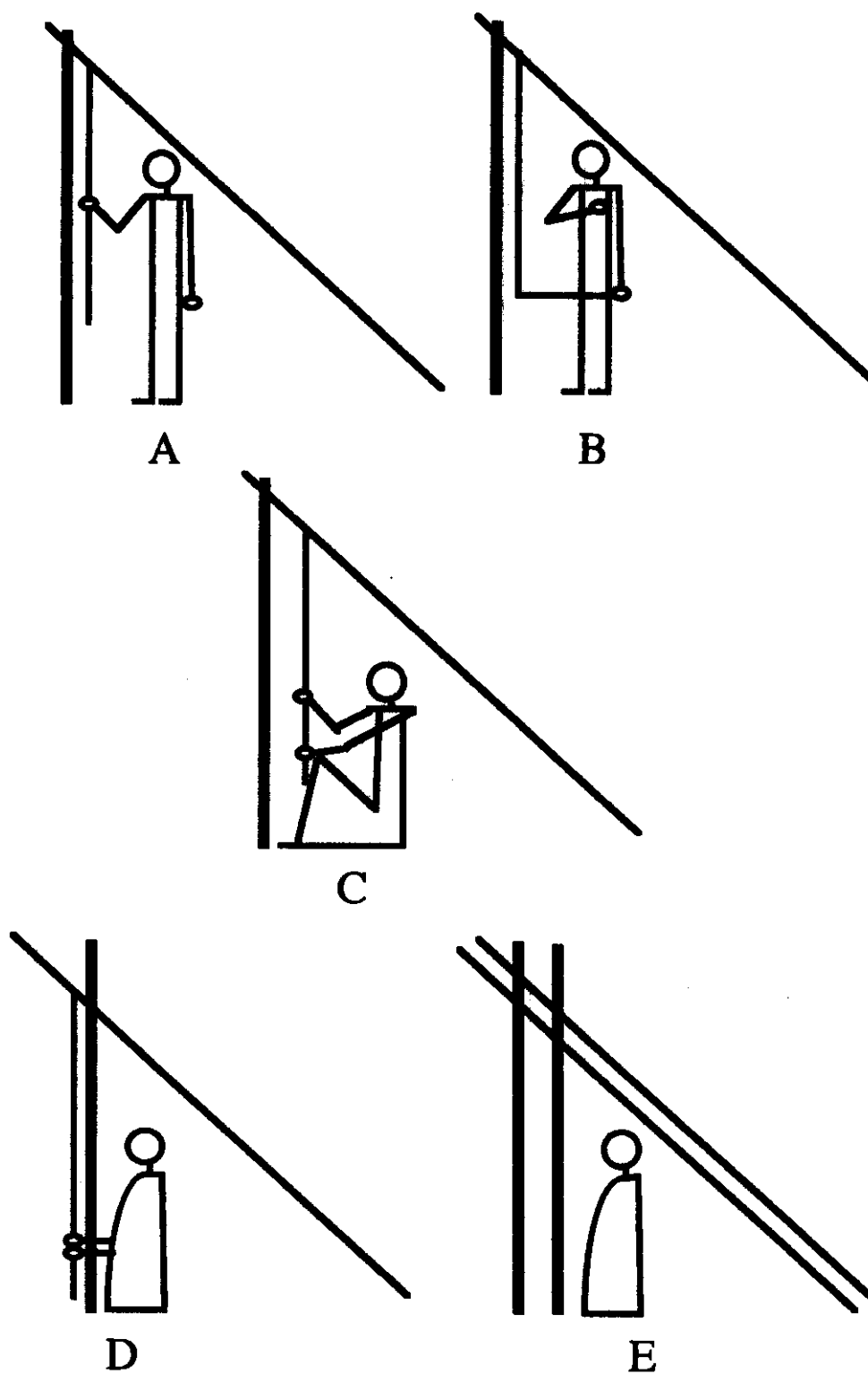


Fig. 6-43. Schematic representations of helmsmen operating rudders, from two-dimensional sources. Middle Kingdom. A: After fig. 6-4. B: After fig. 6-5. C: After fig. 7-27. D: After fig. 6-42 (tow-boat). E: After fig. 6-42 (barge).

rudder of Yachts T, U, V and W has its own helmsman, who stands.<sup>131</sup> In model funerary barges, a single steersman works both rudders from a squatting position,<sup>132</sup> which also appears to be the case in two-dimensional representations (fig. 6-42). Lanyards are tied about the stock above the top of the blade, and are reeved through mortises drilled into the deck or knotted around the crosspiece (fig. 6-41). Decorative finials in the form of the head of a hawk (figs. 1-23, 6-41) topped stanchions. The draftsman continued to be prone to omit certain details, such as crosspieces and lanyards (fig. 6-42).

During the Old Kingdom, the helmsman is always situated forward of the stanchions, but by the Middle Kingdom he usually stood or sat abaft them (fig. 6-42). In funerary boats, he might be draped entirely in a white cloak. Fig. 6-43 illustrates some positions of Middle Kingdom helmsmen from reliefs and paintings.

Some boats possessed a single quarter rudder. Aboard Sporting Boat X from the tomb of Meketre (fig. 6-44), a long, shallow boat propelled by paddles, the rudder is mounted on the starboard quarter; instead of a crosspiece, a spur of wood lashed to the hull serves as its support.<sup>133</sup>

## AXIAL RUDDERS OF THE MIDDLE KINGDOM

Rudders mounted along the axis of a vessel made their appearance as early as early Dynasty VIII (fig. 6-45) and probably developed out of the single Old Kingdom stern-mounted rudder. The boat onto which these rudders were typically mounted was classified by Reisner as Type II,<sup>134</sup> characterized by an incurving stern grooved to accept the stock (figs. 4-13, 4-14, 6-4, 6-5, 6-42).<sup>135</sup> In both two- and three-dimensional representations, a coat of paint or plaster protects the stock where it rubs against the stern.

The axial rudder itself is not markedly different from contemporary quarter rudders. The tiller hangs abaft the stanchion. A lanyard is run around a cleat that protrudes from the stanchion (fig. 6-46), securing the stock.<sup>136</sup> The cleat, thought by Winlock to be a cow's horn,<sup>137</sup> may be crescentic or almost completely circular and in models is invariably on the port side.<sup>138</sup> In two-dimensional representations, the convention is to place it so that it appears to protrude abaft the stanchion (figs. 6-4, 6-42), which otherwise resembles those used for quarter rudders. In the presence of a cleat, the rudder is

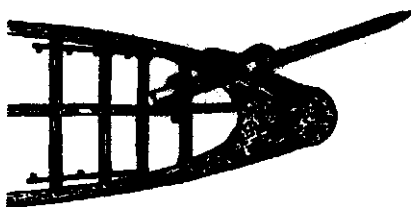


Fig. 6-44. Stern of Sporting Boat X. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II). From Winlock 1955: fig. 82.



A



B

Fig. 6-45. Working boats. Relief. A: El-Hagarsa, Tomb of Merya. Early Dynasty VIII. After Kanawati 1995: pl. 40. B: El-Hagarsa, Tomb of Wahi. Late Dynasty VIII. After Kanawati 1995: pl. 23.

always offset to starboard; where the cleat is absent, the rudder may be mounted to either side of the stanchion.<sup>139</sup> While it is impossible to determine to what extent this is the choice of the reconstructor, BM 41575 was found with the steering oar lashed to the port side.<sup>140</sup> In the models of Meketre, the lashing that secures the rudder to the stanchion is painted black, indicating that the ropes were tarred.<sup>141</sup>

Two lanyards, each consisting of a single rope, tether the rudder (fig. 6-46). The upper lanyard loops around the stock several times and is then fastened through a pair of tarred<sup>142</sup> ropes reeved through mortises to either side of the stern, being secured by a double-line overhand knot, now known as a Chinese knot. For Meketre's Traveling Boat R, the lower lanyard is secured by a clove hitch just above the blade and a single- or half-hitch a little farther up the stock. This rope runs over the stern and is bent by a Chinese knot to a loop that is in turn reeved through a mortise in the stern just above the level of the deck.<sup>143</sup> In paintings and reliefs often only a single lanyard is shown (figs. 6-4, 6-42).

In the case of Meketre's Traveling Boats N, O, P and Q, the upper lanyard consists of a loop of rope that, rather than looping around the stock, runs between loops of rope reeved through the stern (fig. 6-47). The lanyard is fastened on the starboard side by a sling bend, on the port side by a toggle and eye.<sup>144</sup> Winlock postulates that when the boat was moored, the toggle was pulled so that, by hauling on the lower lanyard, the rudder could be stowed aboard.<sup>145</sup>

A relief fragment in the collection of Yale University (YPM 6777), from the temple of Mentuhotep I at Deir el-Bahri, depicts the starboard quarter of a vessel (fig. 6-48).<sup>146</sup> Little of the hull can be discerned. Three helmsmen stand on a platform providing them with flat footing on the otherwise sheer stern. Three stanchions can be seen, although there is almost no sign of the rudders themselves except for the ends of the tillers. Apparently these are gripped by both hands and hang forward of the stanchions.

With the scene in such fragmentary condition, a proper interpretation is difficult. Three solutions present themselves:

1. Three vessels, side-by-side, sharing a common line for the steering-deck, as roof lines may be shared on ship cabins in New Kingdom scenes (fig. 5-5). The helmsman and stanchions have been laterally expanded so that all are visible. Each vessel has either a conventional a) axial rudder or b) pair

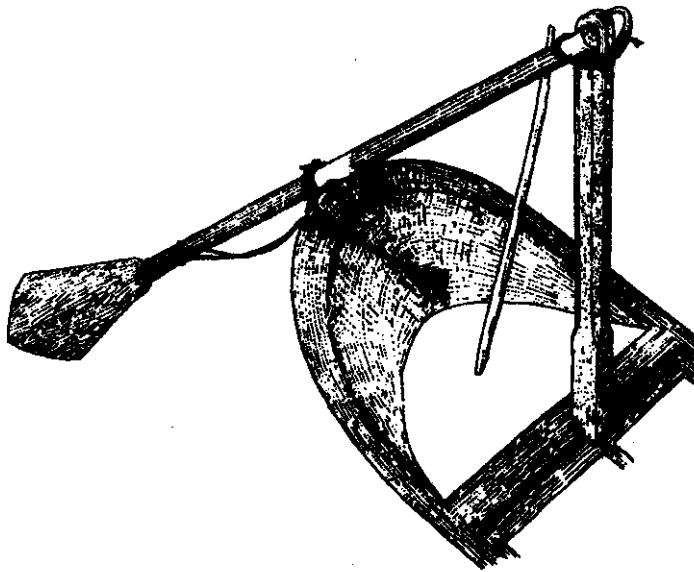


Fig. 6-46. Stern of Kitchen Tender R. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II).  
From Winlock 1955: fig. 84.

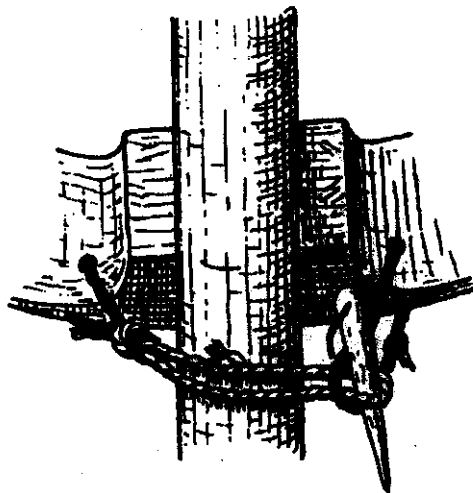
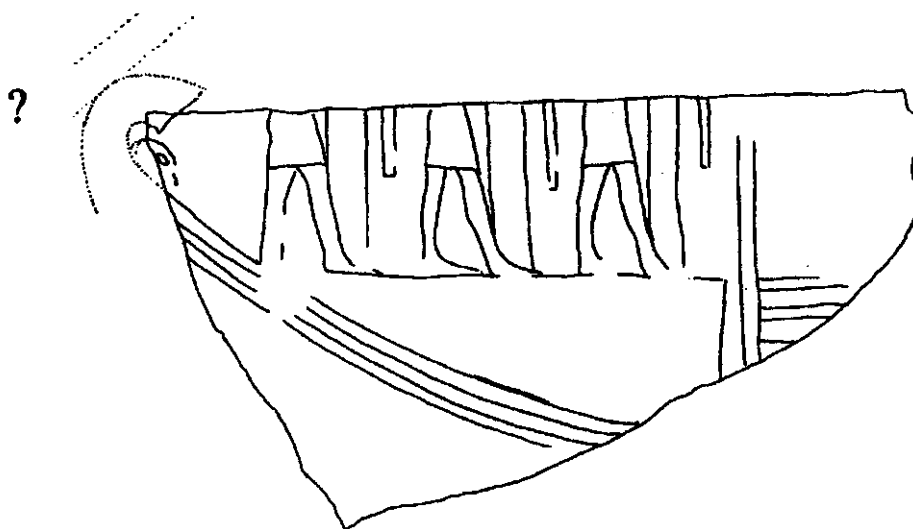


Fig. 6-47. Stern of Traveling Boat O. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II).  
From Winlock 1955: fig. 84.



**Fig. 6-48. Stern of a ship (YPM 6777). Relief. Deir el-Bahri, Temple of Mentuhotep I. Dynasty XI (Mentuhotep I). After Scott 1986: 64 no. 30.**

of quarter rudders. While it has already been observed that aboard other Middle Kingdom vessels with axial rudders the tiller hangs abaft the stanchions (figs. 1-18, 6-4, 6-5, 6-42, 6-46), there is a model boat from this temple with the tiller of its axial rudder forward of the stanchion.<sup>147</sup>

2. One vessel with three rudders mounted on a square stern, with the animal head being a decorative element.

3. One vessel with three (pairs of?) quarter rudders, with the animal head being the decorative terminal of the foremost crosspiece.

There are no exact parallels for any of these interpretations. The only example of a vessel with more than a single pair of quarter rudders is also from Deir el-Bahri: the obelisk barge of Hatshepsut, which has two pairs (see below). Three helmsmen suggest a vessel of unusual size, either a royal traveling ship,<sup>148</sup> or perhaps a cargo boat shipping architectural elements to the site. In this case the large object forward of the helmsman would probably be a block of stone.<sup>149</sup>

## QUARTER RUDDERS OF THE NEW KINGDOM AND LATE PERIOD

The quarter rudders of the New Kingdom do not differ from those of the Old or Middle Kingdom in principle, but rather in detail.

Rudder blades have become truly blunt (figs. 1-6, 1-7, 4-6) and in some cases have lost their oar shape (fig. 6-49). They are rarely decorated,<sup>150</sup> although the lower portion of the blade is commonly painted a solid color. This, and the fact that the stock often ends above this painted surface suggests that these rudders may have been tipped, i.e., given a lower edge, made of a separate piece of wood. This would be with the grain parallel to the lower edge or was sheathed to protect the vulnerable lower end.

Although each of the rudder blades from Tutankhamen's model boats are carved from a single piece of wood, a fragment from another royal tomb shows that in some New Kingdom models the blades were composite.<sup>151</sup> It was probably likewise in the case of working boats.

Rudder stanchions tend to be rectangular in cross-section (fig. 6-49). In the models, splaying of the stanchions is evident; in some models they are held apart by means of a stretcher (fig. 6-49).

Stanchions are set into a crosspiece or through-beam thicker than the deck beams. The upper end of each

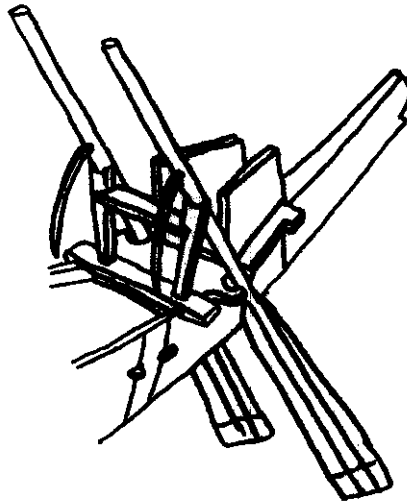


Fig. 6-49. Stern of a model boat (Object no. 284). Wood. Valley of the Kings, Tomb of Tutankhamen. Dynasty XVIII (Tutankhamen). After Jones 1990: pl. XXXII.

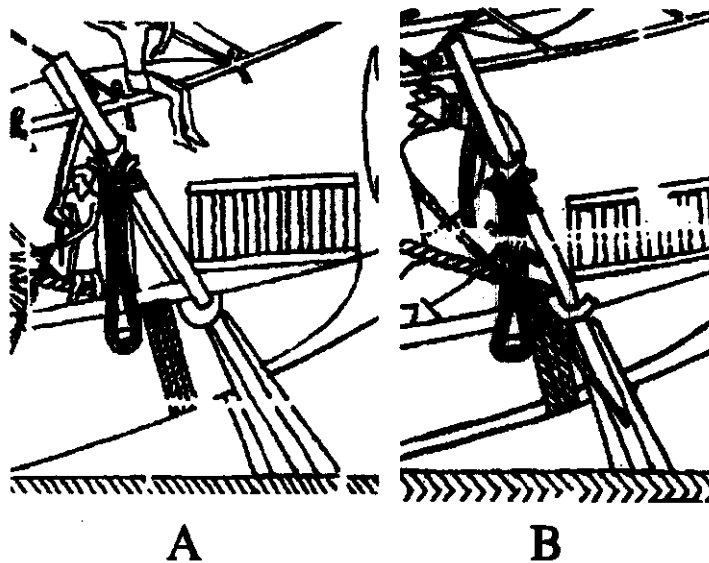


Fig. 6-50. Quarter rudders of Punt expedition ships. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut). Detail, Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, pp. 122-23 fig. 372.



stanchion is notched or splayed to receive the stock of the rudder. In two-dimensional representations, the notch is presented frontally (fig. 6-50), or it may be obscured by lashings (cf. fig. 4-10), the rudder stock (fig. 1-15) or an animal skin (fig. 6-6). The draftsman, when drawing both stanchions, usually expands them laterally (figs. 1-6, 1-7), so one appears behind the other. In fig. 4-10, however, he has expanded them vertically, so the far stanchion appears taller than the near.

The older form of stanchion, on which the stock was lashed to the side, continued to be used, but almost exclusively aboard funerary barges and sacred barques (figs. 1-5, 4-6, 5-2). These, like the forms of the vessels themselves, were a deliberate archaism.

In two of Tutankhamen's papyriform craft (Objects No. 308, 311) (fig. 6-51), each stanchion, round in section, is equipped with two dowels. The higher dowel probably serves the same function as the cleat on Middle Kingdom stanchions. The lower dowel serves as additional support for the stock. This feature does not appear in two-dimensional representations, and it may be a device the modelmaker used for his own convenience.

Aboard large vessels such as seagoing ships and obelisk barges, the stanchions are supplemented by loops of rope or leather<sup>152</sup> held together by seizings (fig. 6-50).

During the reign of Hatshepsut an alternative to the crosspiece seems to appear. In the reliefs depicting her expedition to Punt and the delivery of two obelisks, each vessel has a ring, presumably of wood and presented from above, through which the stock passes (fig. 6-50). This resembles the later box mount, and shares its disadvantage in fixing the rudder firmly in place. Thus, if the rudder should strike a submerged object it was likely to break, rather than deflect as it might with a crosspiece.<sup>153</sup> The ring might, however, have provided more security for the quarter rudders of a large ship than would have simply lashing them to a crosspiece. This device appears not only on the barge itself but on the tow-boats as well, although since the Middle Kingdom tow-boats were traditionally provided with axial rudders. However, it is not entirely certain that this represents a device like the box-mount. The timber in fig. 6-50.B does not seem to be a completely enclosed "box." It bears close resemblance to a top view of the forward half of the crosspiece in fig. 6-49 (which, incidentally, shares the disadvantages of the box mount). The timbers aboard the obelisk barge are similarly treated. I suspect a crosspiece such as that in fig. 6-49 is what appears in fig. 6-50.

As during the Middle Kingdom, quarter rudders are provided with lanyards. These are reeved

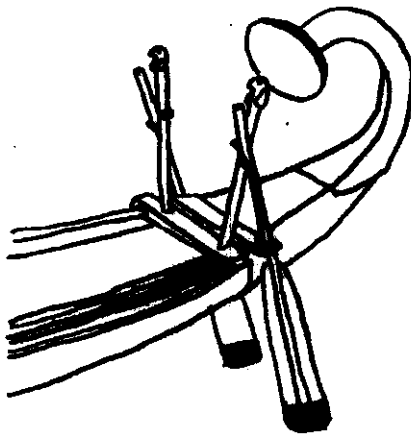


Fig. 6-51. Stern of model papyriform vessel (Object no. 308). Wood. Thebes, Tomb of Tutankhamen. Dynasty XVIII (Tutankhamen). After Jones 1990: pl. XXXIV.

through a hole or pair of holes in the blade of the rudder and are affixed somewhere aboard the ship; in Hatshepsut's Punt expedition ships (fig. 6-50.B), they seem to lead to the rudder stanchions or the crosspiece. On the sacred barque of Amon-Ra depicted in the Temple of Khonsu, there is a (metal ?) ring affixed to the deck or hull that perhaps functioned as a cleat (fig. 6-52). Lanyards were omitted, or in one case missing, from Tutankhamen's model boats.<sup>154</sup>

More elaborate finials appear on rudder stocks and stanchions with side-mounted rudders. A hawk's head continued to be popular (fig. 6-51), but the head of other gods<sup>155</sup> or of the king or queen (fig. 5-5) also appear.

In virtually all models of New Kingdom boats with quarter rudders, they are found in pairs. The single contrary example appears to be the golden model boat of Queen Ahhotep (fig. 6-53), a small papyriform boat mounted on a four-wheeled carriage. The hull is extremely narrow, making a second quarter rudder unnecessary and impractical.<sup>156</sup>

Texts refer to a single helmsman aboard a vessel. This does not dismiss the accuracy of the iconographic record, but it does indicate that the operation of steering a vessel was *ideally* considered the act of a single operator. Except in the case of very large vessels, there is nothing to prevent a single helmsman from effectively controlling a ship.

Quarter rudders are variously operated and represented in two dimensions; examples appear in fig. 6-54. As during the Middle Kingdom, draftsmen place the helmsman in a variety of positions in relationship to the rudder. The helmsman standing on the deck forward of the stanchions is the most common arrangement.

A wide array of positions may be visible in a single monument, indeed even in a single scene. Examples from the mortuary temple of Hatshepsut at Deir el-Bahri include:

Fig. 6-50. Punt expedition ship. Two helmsmen/two rudders shown. Helmsmen stand forward of the stanchions, far leg forward, near hand bent and grasping the end of the tiller (which passes over the far forearm), while the far arm is bent to take the tiller in its crook.

Fig. 6-55.A. Papyriform royal ship. Single helmsman shown. Two rudders shown. The helmsman stands forward of the stanchions, far leg forward, near arm grasping the end of the tiller which passes over his near shoulder, while his far arm is bent and grasps slightly higher.

Fig. 6-55.B. Obelisk barge. Four helmsmen/four rudders shown. Helmsmen stand forward of

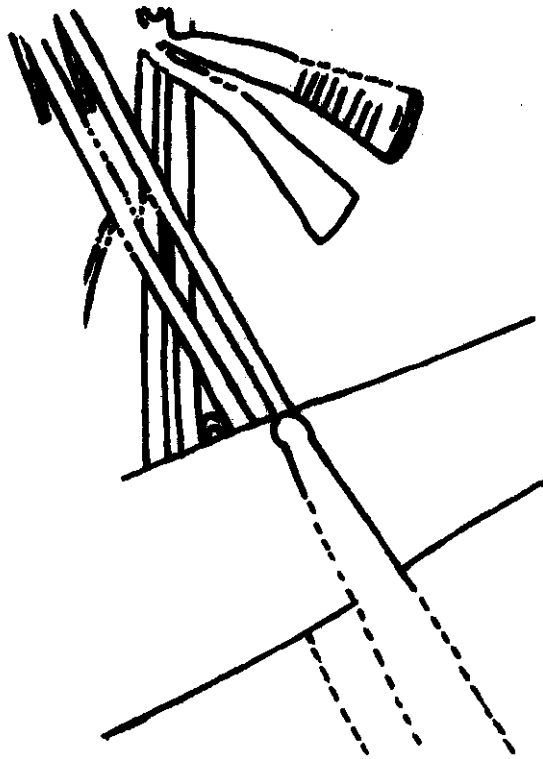


Fig. 6-52. Stern of the sacred barge of Amon-Ra. Relief. Karnak, Temple of Khonsu. Dynasty XX Renaissance (Rameses XI/Herihor). After Epigraphic Survey 1979: pl. 21.

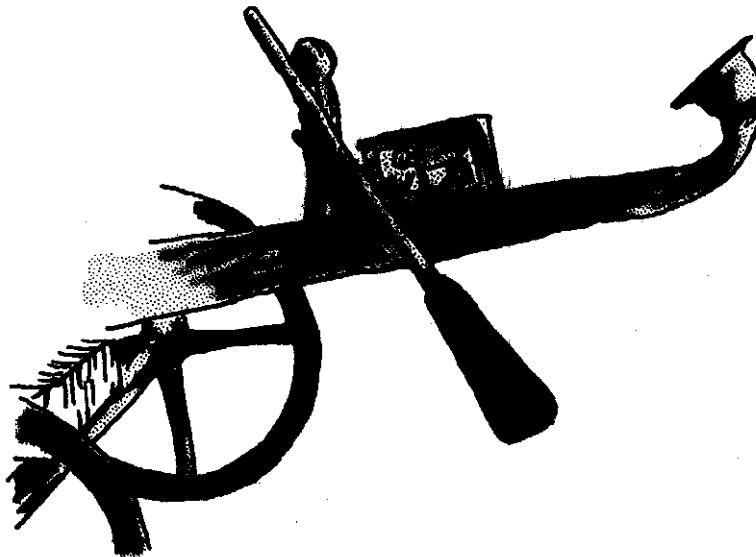


Fig. 6-53. Model papyriform boat (EM 52.666). Gold. Tomb of Queen Ahhotep. Dynasty XVIII (Ahmose). After Landström 1970: 98 fig. 311.

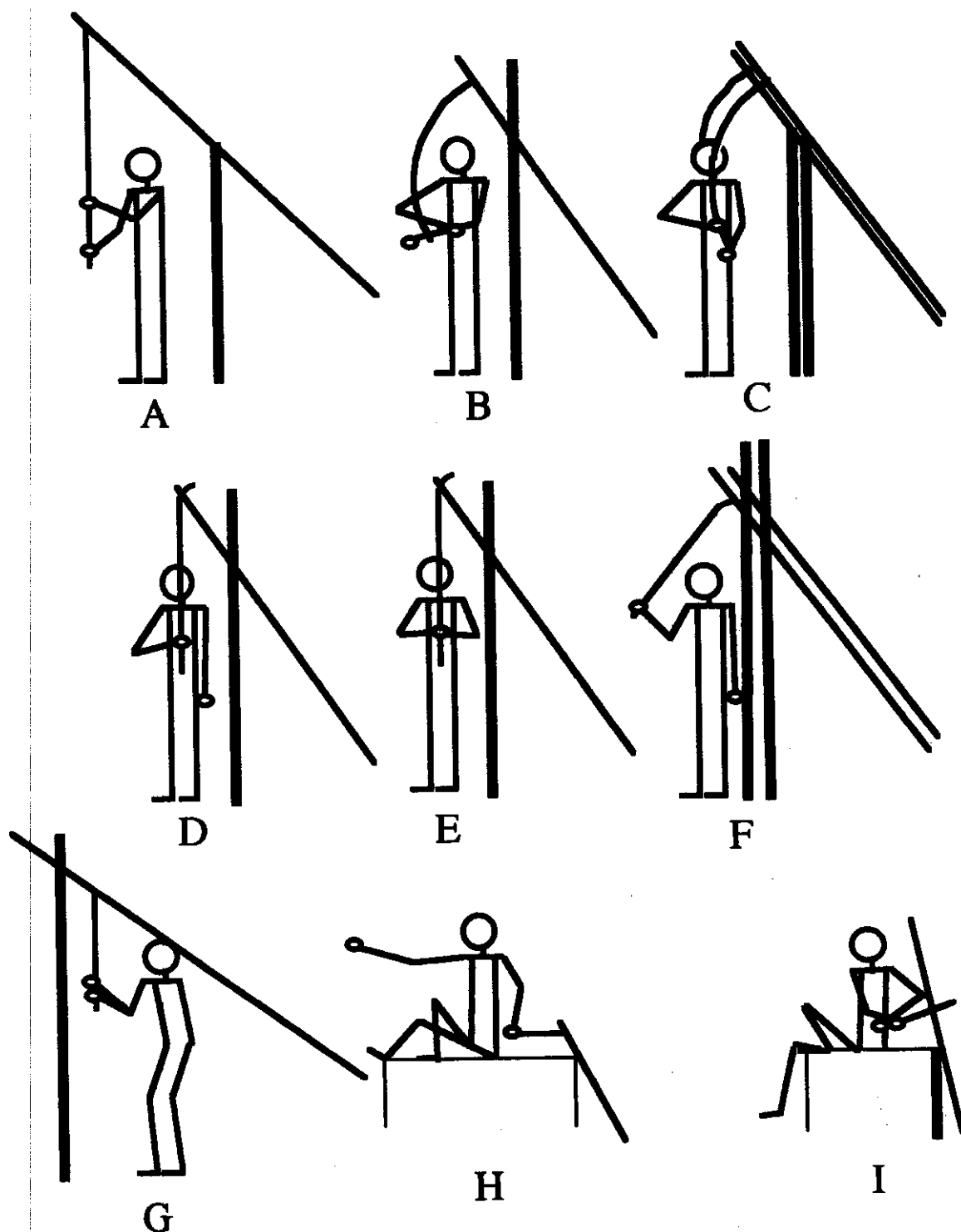
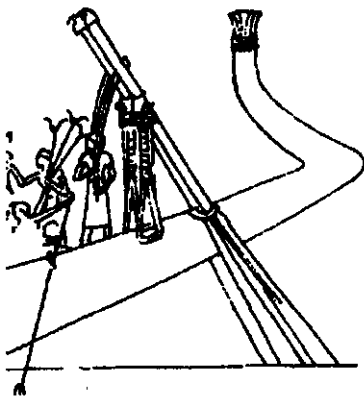
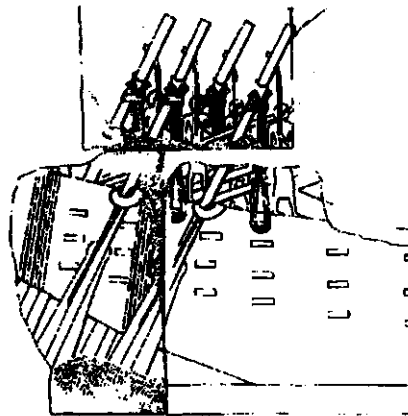


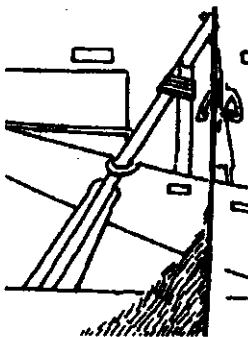
Fig. 6-54. Schematic representations of helmsmen operating quarter rudders, from two-dimensional sources. New Kingdom and Late Period (\*). A: After fig. 7-48. B: After fig. 6-50.A. C: After fig. 6-55.A. D: After fig. 6-55.B. E: After fig. 6-55.C. F: After fig. 6-52. G: After fig. 7-54. H: After fig. 6-56.A. I: After fig. 6-57\* (boat on right).



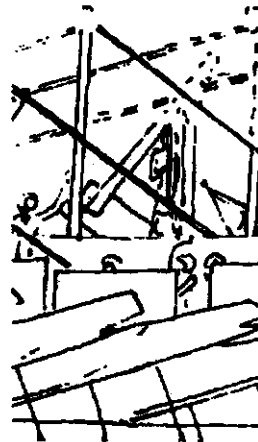
A



B



C



D

Fig. 6-55. Sterns of ships. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut).  
 A: Papyrus vessel. Detail, Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 116 fig. 358. B: Obelisk barge. Detail, *ibid.*, p. 128 fig. 381. C: Tow-boat for obelisk barge. Detail, *ibid.*, p. 129 fig. 381. D: Tow-boat for an obelisk barge. Detail, *ibid.*, p. 131 fig. 383.

the stanchions, far leg forward, [near hand obliterated but below far hand], far arm bent and hand grasping tiller (which passes over near shoulder) near its tip at chest-level.

Fig. 6-55.C. Tow-boat of obelisk barge. One helmsman/one rudder shown. Helmsman stands forward of the stanchions, far leg forward, both arms bent to grasp above the end of the tiller, which passes over the near shoulder.

Fig. 6-55.D. Tow-boat of obelisk barge. One helmsman/one rudder shown. Helmsman stands abaft the stanchions, far leg forward, far hand grasps tiller (which passes over the near shoulder) low, while near arm is bent and grasps the tiller at chest-level.

That the details of the steering gear might vary among the representations in a large complex such as Hatshepsut's mortuary temple is not surprising; there would have been multiple working crews, and several draftsmen would have prepared the drawings. It may too have been a matter of artistic whim. As Nina de G. Davies observed with regards to another scene, "No Egyptian artist would have made himself guilty of. . . monotonous handling of his theme."<sup>157</sup>

The above discussion has focused entirely upon the helmsmen standing on the deck. The use of a cabin top as a seat for the helmsman aboard ordinary working or ritual boats is all but discontinued after Dynasty XII.<sup>158</sup> Two prominent exceptions are the warships that Rameses III sent against the Sea Peoples (Dynasty XIX) (fig. 6-56) and Piye's "great ship of Amon" (fig. 6-57, ship on the right). These vessels bear a passing resemblance in their extreme sheer at the stern and rectangular stern cabins, and both helmsmen sit with one leg drawn up, the other hanging over the edge of the cabin. Aboard the former, the helmsman grasps the tiller with one or two hands (the other may grasp the stock, recalling Old Kingdom reliefs; cf. figs. 6-23, 6-26); the tiller is shorter than one usually encounters on quarter rudders. Aboard one of Piye's vessels, the helmsman reaches out with his far hand, either to pay homage to the king or to give orders, while his near hand grasps the tiller, which is attached to the tip of the stock at nearly a ninety-degree angle. Additionally, in both scenes the stanchions for the quarter rudders are, generally, missing. In the Medinet Habu scene, one boat does have a stanchion (fig. 6-56:A); the others are lost, like other details that would have been added in the application of plaster or paint.<sup>159</sup>

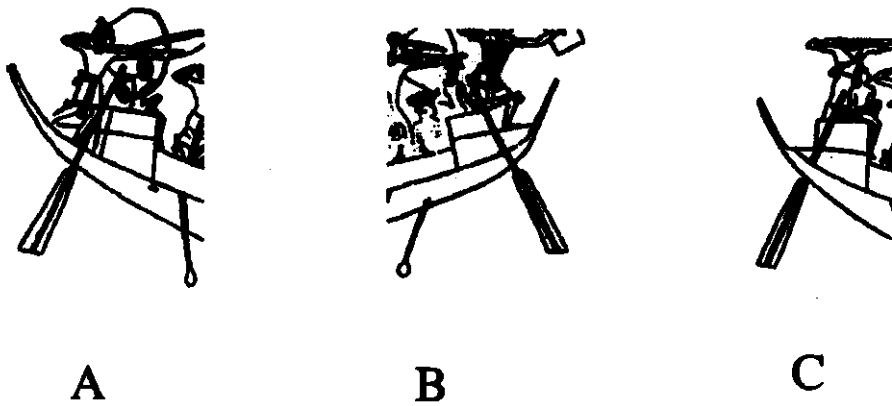


Fig. 6-56. Sterns of Egyptian warships. Relief. Medinet Habu, Temple of Rameses III. Dynasty XIX (Rameses III). After Nelson 1943: fig. 4.

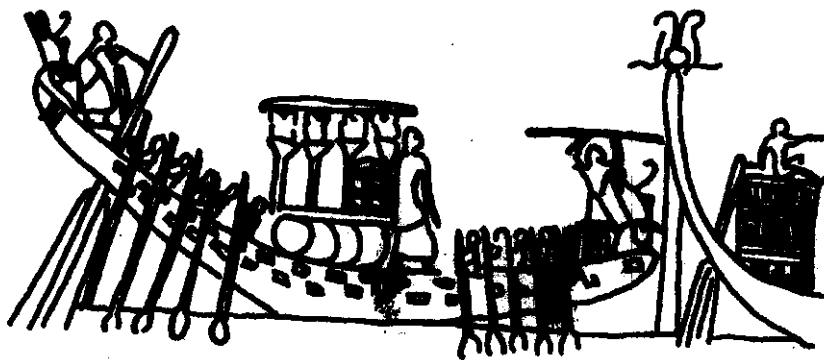


Fig. 6-57. Fleet of Piye. Relief. Asher, Temple of Mut. Dynasty XXV (Piye). After Edgerton 1927: 264 fig. 9 and Landström 1970: 140 fig. 408.



## AXIAL RUDDERS OF THE NEW KINGDOM

The axial rudder developed during the First Intermediate Period underwent changes so that by the New Kingdom it no longer rested on the incurved edge of the stern but rather between the "tines" of a forked stern (fig. 4-7; see chapter IV for the Egyptian conventions for representing this construction). This design seems to have originated during the Second Intermediate Period, as it is first seen in the tomb of Sobeknakht (fig. 6-58), dated after Sobekhotep II and likely after Dynasty XIII.<sup>160</sup>

The shape of the stern varied from boat to boat; particularly variable is the depth of the cleavage, which ranged from very shallow (fig. 6-59) to very deep (fig. 6-60). The helmsman may sit on it (fig. 6-60), or it may be sufficiently large to accommodate a man who kneels in worship to the sacred barge in tow.<sup>161</sup>

The stanchions supporting these axial rudders accommodate the stock over its top rather than at the side, and are generally like those used for quarter rudders. Although the stanchion cannot be ornamented with a finial, the stocks are, with ducks (fig. 1-16), crescents (fig. 1-12), or blocks ("shields"?; fig. 5-4). Landström suggested that the last may have acted as counterweights,<sup>162</sup> but these can scarcely have been needed or else they would appear more frequently. Perhaps they were some form of owner's mark.

The tiller may be of the usual sort, long and mounted either forward of the stanchion (figs. 1-12, 6-59) or abaft it (figs. 1-11, 1-16, 6-58), or it may be quite short and worked from abaft (figs. 1-9, 5-4). With the exception of the very early (and poorly preserved) scene from the tomb of Sebeknakhet, in which the helmsman straddles a box-shaped seat (fig. 6-58), the helmsmen aboard these boats always occupy the deck. They seldom sit (fig. 6-60), but more usually stand on the deck. Now and then one occupies a structure resembling the pilot's box (fig. 6-59), although elsewhere this structure is not for the helmsman (fig. 1-11). It may have been artistic convenience for the draftsman of fig. 6-59 to place one there. Various positions of New Kingdom and Late Period helmsmen working axial rudders appear in fig. 6-61.

Once again, lanyards rarely appear. Those that do (fig. 6-21) are reeved through a hole on either side of the blade and run up the stock, where they are fastened at some point in the boat.

In the New Kingdom the axial rudder became the steering arrangement of choice for working

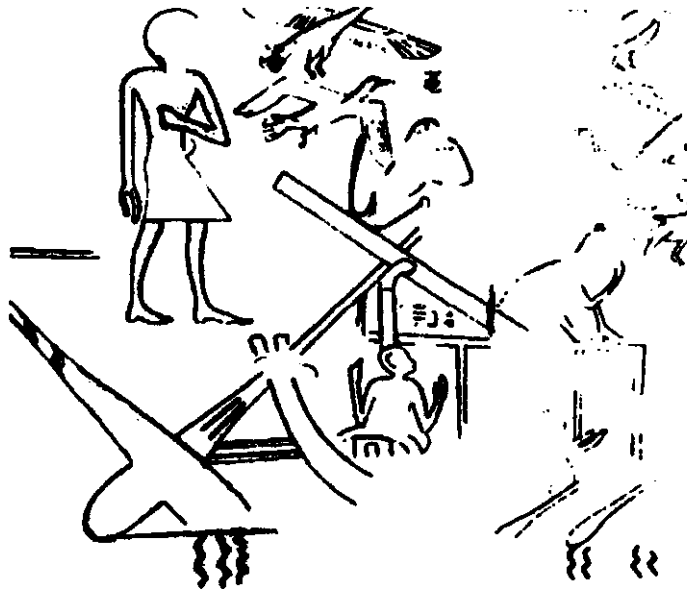


Fig. 6-58. Boat with axial rudder. Painting. El Kab, Tomb of Sobeknakht. Second Intermediate Period. After Tylor and Clarke 1896: pl. II.

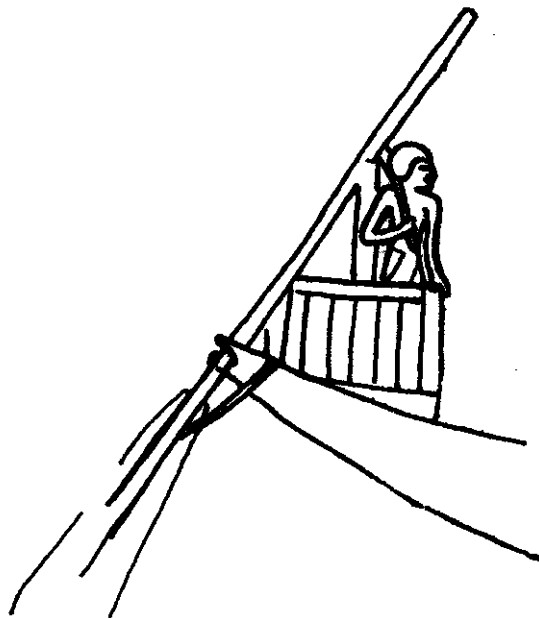


Fig. 6-59. Tow-boat. Relief. TT 57. Dynasty XVIII (Amenhotep III). After Wreszinski 1988.1: pl. 207.

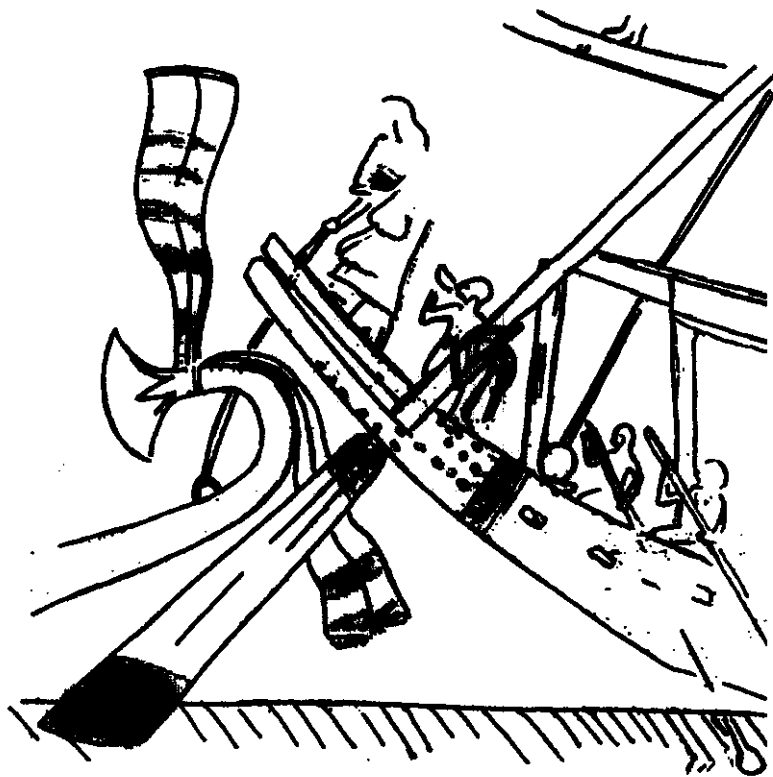


Fig. 6-60. Bow of tow-boat and stern of funerary barge. Relief. Memphis, Tomb of Tia and Tia. Dynasty XIX (Rameses II). After Martin 1991: 111 no. 72.

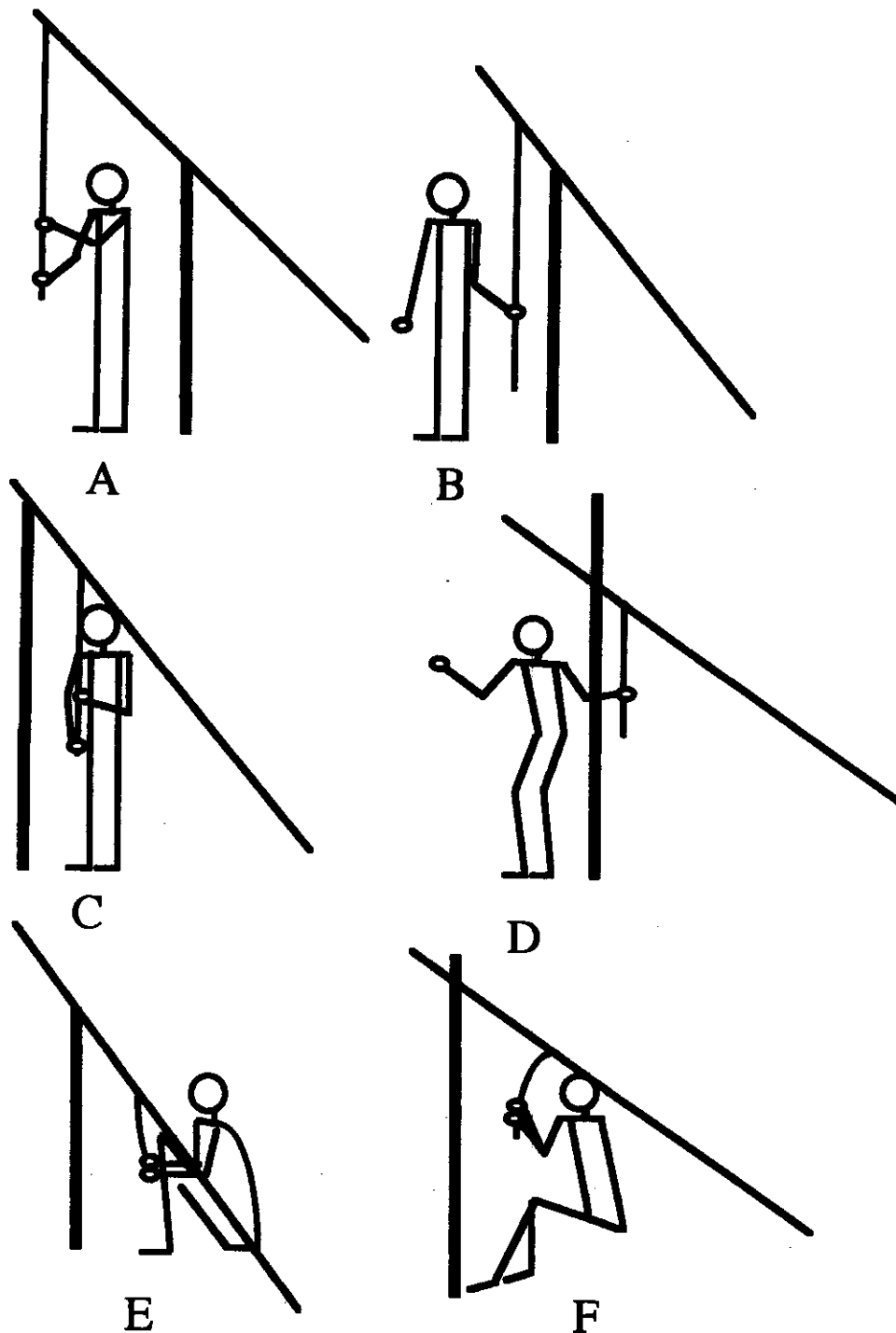


Fig. 6-61. Schematic representations of helmsmen operating axial-mounted rudders, from two-dimensional sources. New Kingdom. A: After fig. 1-11 (boat on right). B: After fig. 6-21 (tow-boat). C: After fig. 6-55.D. D: After fig. 7-41. E: After fig. 9-16. F: After Davies 1933.2: pl. XXIII (lower register, boat on right).

boats (figs. 1-12, 2-2, 5-4). It is almost always employed aboard tow-boats, perhaps because the axial rudder improved control.<sup>163</sup> However, it also was common enough for a draftsman to give the deceased a boat with this kind of steering gear, rather than the traditional papyrus raft (fig. 6-62).

## THE ABSENCE OF HELMSMEN AND STEERING GEAR

Papyrus rafts often lack steering gear. Paddlers or punters provide all the maneuvering such small, handy craft need. When the courtier Sinuhe fled from Egypt, he "crossed in a barge without a rudder, by the force of the west wind."<sup>164</sup> Wooden fishing boats of the New Kingdom have rudders, but when fishing, the helmsman abandons his post and hauls in nets while the pilot directs and the oarsmen pull the oars (fig. 6-63; cf. figs. 1-9, 6-45).

Aboard larger vessels the helmsman is not so dispensable, although on rare occasion he abandons his tiller to take up the slack on the rope by which a funerary or sacred barge is being towed (fig. 6-64). Likely the draftsman has indulged his license here, making the stern less crowded by reducing the number of men who would otherwise occupy it; more often, there is a man other than the helmsman tending the rope, when it is tended at all. The festivities of a funeral might permit him to look abaft and drink a draught of wine in celebration of the deceased (fig. 6-60).

Helmsmen and/or steering gear are often lacking from two-dimensional representations of model boats and portable barques (figs. 1-6, 4-16, 6-22; for an example of a model with a helmsman, see fig. 4-6), as well as funerary barges (fig. 6-65) and representations of divine or netherworldly boats (figs. 1-7, 6-62). Moored vessels generally have no helmsman at the tiller (figs. 1-12, 1-15, 1-16, 4-10, 5-4, 5-6, 6-16, 6-50.B; for an exception, see fig. 6-34).

In some instances, the reason for the absence is clearly one of emphasis. The draftsman who sketched the "expedition" ships at Deir el-Medina (fig. 6-66), for example, omitted both helmsmen and stanchions. Given the cargo loaded on the deck at the stern, it is something of a mystery as to where the helmsman might have stood (although the draftsman did allow for a harper and his dancing monkey atop the bales); the draftsman has arranged things to his need and focus, placing all of the cargo at the stern so that the rowers may occupy the area forward of the mast. As during the Predynastic, the presence of the rudders serves to indicate the presence of the helmsman.

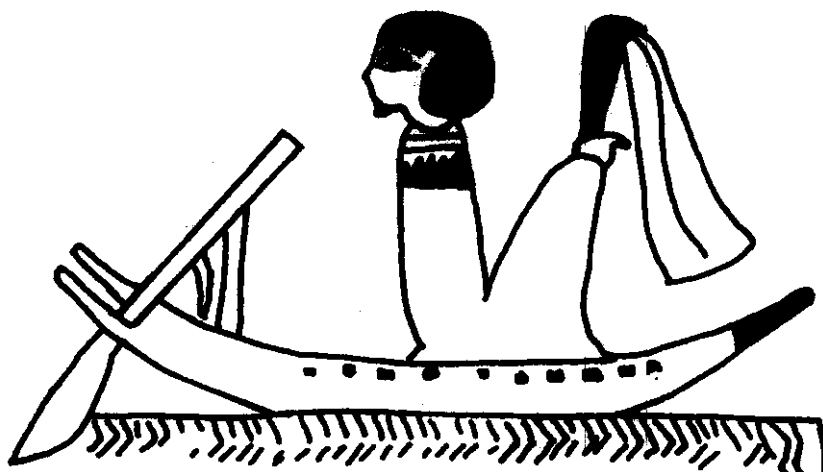


Fig. 6-62. Netherworldly boat. Painting on papyrus. P. of Ani. New Kingdom. From Jones 1995: pl. I.

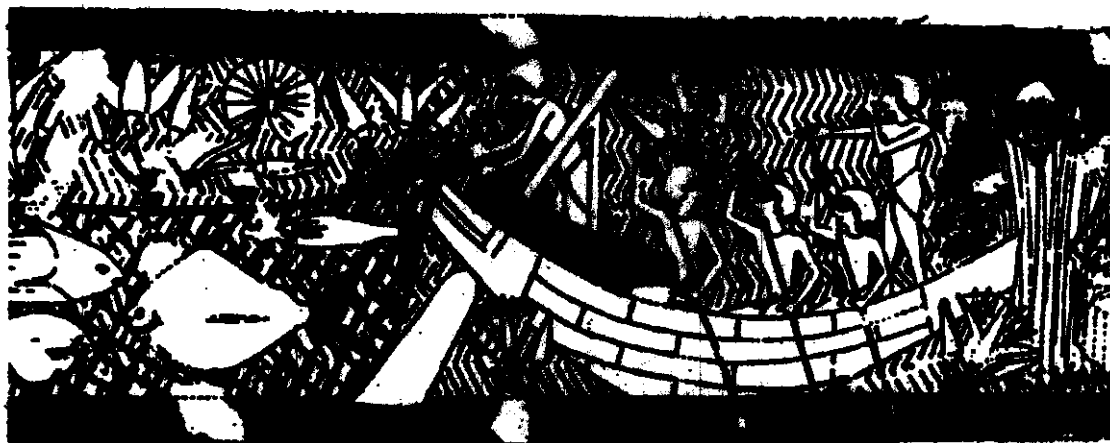


Fig. 6-63. Fishermen hauling in a net. Painting. TT 217. Dynasty XIX (Rameses II). From Davies 1927: pl. XXX.



Fig. 6-64. Tow-boat and funerary barge on an artificial lake. Painting. TT 277. Dynasty XX. From d'Abaddie 1954: pl. XII.

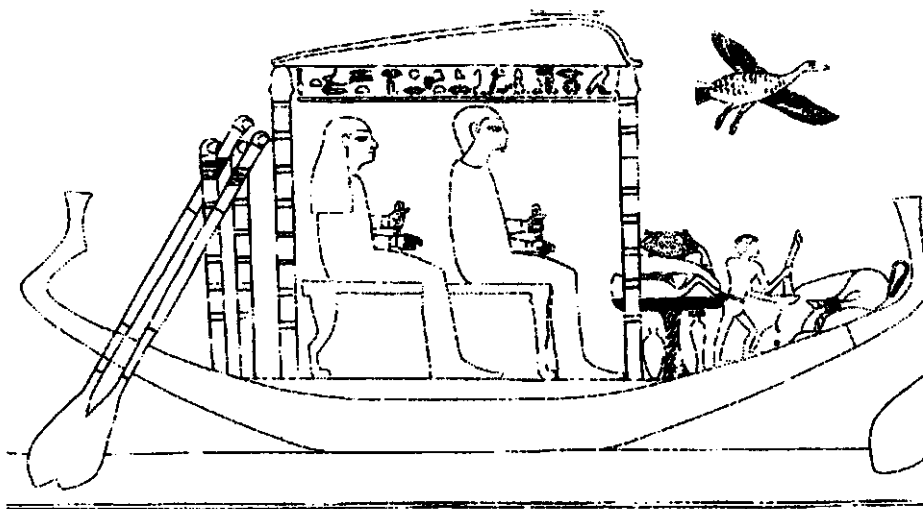


Fig. 6-65. Funerary barge. Painting. TT 60. Dynasty XII (Senwosret I). From Davies and Gardiner 1920: pl. XVIII.

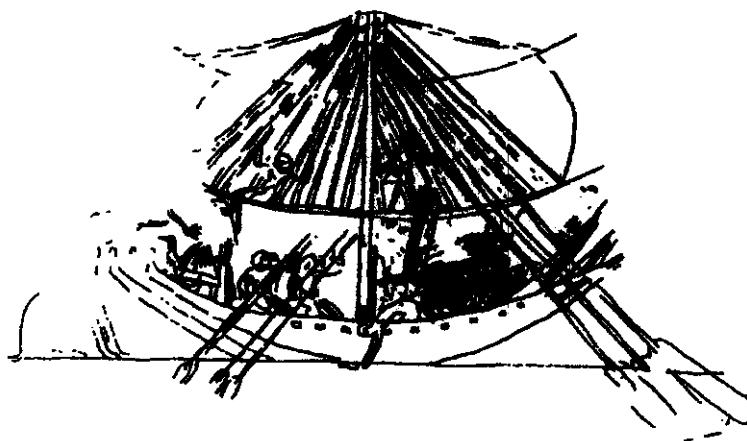


Fig. 6-66. "Expedition" ships. Painting. TT. New Kingdom. After Bruyère 1928: fig. 20.



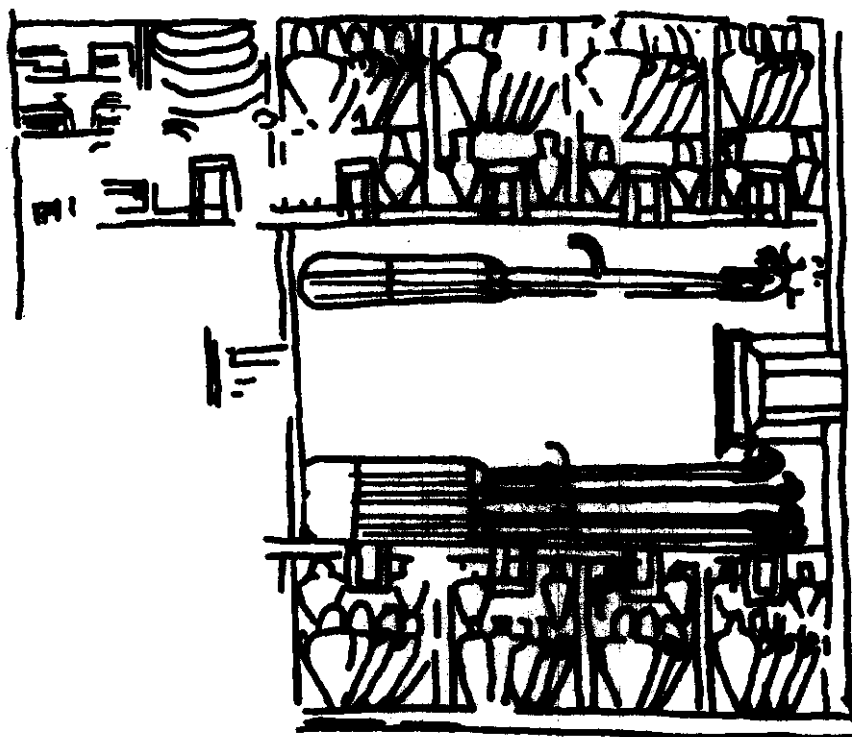


Fig. 6-67. Store-rooms of the Temple of Amon. Painting. TT 178. Dynasty XIX (Rameses II). After Wrcszinski 1988.1: pl. 75a

Examples of helmsmen, steering oars or rudders, crosspieces, tillers and other elements of the steering gear omitted from either two-dimensional representations or models (from which they are commonly lost) are too numerous to list. However, there are instances of rudders legitimately absent from their boats. The Egyptians removed the rudders of boats being hauled along slipways (fig. 2-2), an entirely sensible precaution. Whether they were stowed aboard or carried separately is not illustrated. Whether the rudders were carried separately or stowed aboard cannot be determined from the illustration. When not in use, rudders were stored with other equipment; TT 178 illustrates the storerooms of a temple (fig. 6-67). In one of the courtyards lie six rudders, four with hawk-heads, two with the crowned heads of rams, clearly equipment for processional barges, the latter from the sacred barge of Amen, *Wsr-Ht Imn*.

### MISPLACED STEERING GEAR

As mentioned above, models have often lost their steering gear, which is small in size and easily broken or misplaced. This means too that when models are found, their gear is no longer in its proper position, a situation that has led to a number of false or inaccurate reconstructions of the models.

One of the more extraordinary cases is BM 25360, a wooden model of a sailing boat, probably from Meir and dating to the Middle Kingdom (fig. 6-68).<sup>165</sup> Its form is typical of Reisner's Type II, that is, provided with an axial rudder. Commonly at the bow of such vessels there is a forked timber, discussed in greater detail in chapter VIII. The purpose of this timber is somewhat speculative, but whoever reassembled this model has used it to support a second rudder, despite the fact that there was never a stanchion at the bow. Glanville writes

This arrangement with a steering oar at the bows as well as at the stern is so abnormal as to raise a question concerning its authenticity; it is difficult to conceive what purpose a bow steering-gear could serve in a boat propelled by sail or oars.<sup>166</sup>

There can be no doubt that the rudder is misplaced and belongs to another vessel, perhaps the rowed counterpart to this sailing vessel.

Other misplacements are due to the ancient artist. A small stone model from Bersheh (fig. 6-69)

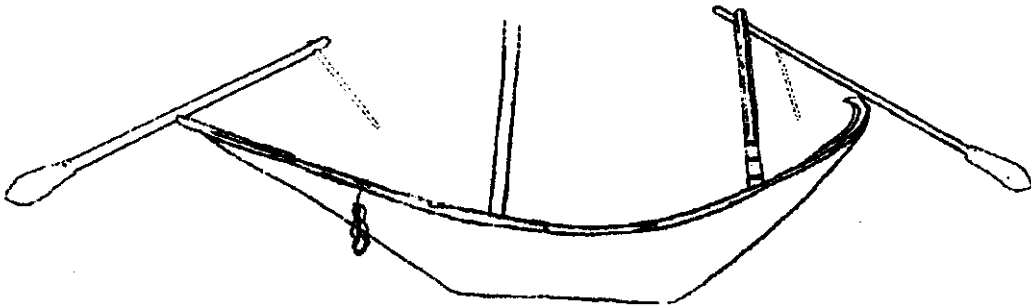


Fig. 6-68. Model sailing vessel (BM 25360). Wood. Meir. Middle Kingdom. After Glanville 1972: 17 fig. 16a.

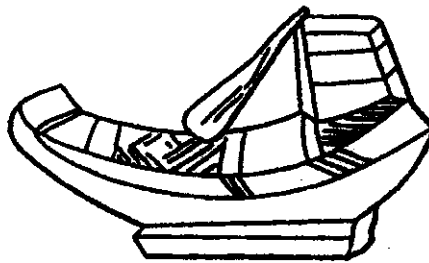


Fig. 6-69. Model boat (EM 4975). Stone. Bersheh. Middle Kingdom? From Reisner 1913: 113 fig. 388.

has the rudder propped inside the boat. In a very late two-dimensional example, the draftsman paired such a forked stern with a quarter-mounted rudder (fig. 4-15). This curious hybridism may indicate that the draftsman was unfamiliar with the forked stern.

## NOTES

- <sup>1</sup> Lewis 1976: 12.
- <sup>2</sup> Lichtheim 1973-80.1: 179.
- <sup>3</sup> The Victory Stela of Piye from Napata (EM 48862, Lichtheim 1973-80.3: 72).
- <sup>4</sup> Lichtheim 1973-80.3: 177. This brings to mind a modern phrase with a different shade of meaning: "Loose lips sink ships."
- <sup>5</sup> Lichtheim 1973-80.2: 158. This text is probably Ramesside in date (Lichtheim 1973-80.2: 147).
- <sup>6</sup> P. Anastasi II, Prayer to Amon (Dynasty XIX-XX, Lichtheim 1973-80.2: 112).
- <sup>7</sup> Lichtheim 1983: 112 n. 1. Caminos (1954: 58) leaves the metaphor intact and does not supply a suggestion for the lacuna.
- <sup>8</sup> Allen 1974: 140.
- <sup>9</sup> E.g., BD 15 (Horus; Allen 1974: 14), BD 15A3 (Amon-Ra; Allen 1974: 18), BD 136 (Ra?; Allen 1974: 111), Prayer to Amon (Amon; Lichtheim 1973-80.2: 112).
- <sup>10</sup> Breasted 1906.1: 277 § 613.
- <sup>11</sup> "Tale of the Eloquent Peasant" (Lichtheim 1973-80.1: 178); cf. *ibid.*, "Rudder, drift not," (Lichtheim 1973-80.1: 173).
- <sup>12</sup> Lichtheim 1973-80.1: 175.
- <sup>13</sup> Note that the deceased may claim at once to be both helmsman and passenger, the former a position of power, the latter a position of privilege.

<sup>14</sup> CT 560 (Faulkner 1973-78.2: 168); for other examples, see: CT 647 (Faulkner 1973-78.2: 222); CT 660 (Faulkner 1973-78.2: 231); CT 866 (Faulkner 1973-78.3: 42); CT 815 (Faulkner 1973-78.3: 7); CT 644 (Faulkner 1973-78.2: 220); CT 1104 (Faulkner 1973-78.3: 159), and perhaps CT 753 (Faulkner 1973-78.2: 287).

<sup>15</sup> Wilkinson 1992: 157.

<sup>16</sup> Allen 1974: 139-140. Cf. BD 141 (Allen 1974: 117).

<sup>17</sup> CT 404 (Faulkner 1973-78.2: 53); CT 405 (Faulkner 1973-78.2: 55); BD 99 (Allen 1974: 81).

<sup>18</sup> BD 58 (Allen 1974: 54).

<sup>19</sup> CT 479 (Faulkner 1973-78.2: 122; see also Faulkner 1973-78.2: 123 n. 21).

<sup>20</sup> CT 409 (Faulkner 1973-78.2: 61); Faulkner proposes that the steering oar is here identified with "the perch on which the sacred ibis stands" (Faulkner 1973-78.2: 62 n. 3), namely, the standard often seen on ships.

<sup>21</sup> CT 473 (Faulkner 1973-78.2: 109). The questionable word (Faulkner 1973-78.2: 111 n. 32) is *wart*.

<sup>22</sup> CT 400 (Faulkner 1973-78.2: 43).

<sup>23</sup> BD 148 (Allen 1974: 140).

<sup>24</sup> BD 99 (Allen 1974: 80).

<sup>25</sup> BD 122 (Allen 1974: 95).

<sup>26</sup> CT 404 (Faulkner 1973-78.2: 49); BD 99 (Allen 1974: 81).

<sup>27</sup> CT 397 (Faulkner 1973-78.2: 34).

<sup>28</sup> CT 404 (Faulkner 1973-78.2: 49).

<sup>29</sup> CT 405 (Faulkner 1973-78.2: 55).

<sup>30</sup> BD 122 (Allen 1974: 95).

<sup>31</sup> CT 404 (Faulkner 1973-78.2: 49); CT 405 (Faulkner 1973-78.2: 55); BD 99 (Allen 1974: 81).

<sup>32</sup> CT 404 (Faulkner 1973-78.2: 53 n. 47).

<sup>33</sup> CT 404 (Faulkner 1973-78.2: 53 n. 47).

<sup>34</sup> CT 409 (Faulkner 1973-78.2: 61).

<sup>35</sup> BD 58 (Allen 1974: 54).

<sup>36</sup> CT 398 (Faulkner 1973-78.2: 35).

<sup>37</sup> CT 400 (Faulkner 1973-78.2: 44 n. 11).

<sup>38</sup> CT 400 (Faulkner 1973-78.2: 43).

<sup>39</sup> CT 397 (Faulkner 1973-78.2: 34).

<sup>40</sup> CT 404 (Faulkner 1973-78.2: 49).

<sup>41</sup> CT 405 (Faulkner 1973-78.2: 59).

<sup>42</sup> CT 404 (Faulkner 1973-78.2: 49). Faulkner (1977: 53 n. 51) suggests that this may refer to the two steering-posts, which may be topped with animals or the heads of animals, gods or the king (figs. 1-23, 5-5).

<sup>43</sup> Steffy 1994: 280.

<sup>44</sup> Jones 1988: 200 (IV.10); cf. Boreux 1925: 448.

<sup>45</sup> Jones 1988: 65 (I.a.68).

<sup>46</sup> Jones 1988: 124 (I.e.3).

<sup>47</sup> Jones 1988: 50 (I.a.7).

- 48 Jones 1988: 82 (I.a.140).
- 49 Jones 1988: 162 (III.45). Cf. Jones 1988: 124 (I.e.2).
- 50 Jones 1988: 224 (VI.92).
- 51 Jones 1988: 227 (VI.107).
- 52 Jones 1988: 209 (VI.5).
- 53 Jones 1988: 230 (VI.122).
- 54 Jones 1988: 192 (III.173).
- 55 Faulkner 1973-78.2: 111 n. 32; Jones 1988: 159 (III.33).
- 56 Jones 1988: 221 (VI.75).
- 57 The blade referred to in some translations as the "dipper" (e.g., Allen 1974: 95).
- 58 Jones 1988: 152 (III.5).
- 59 Jones 1988: 162-163 (III.46) suggests that *bāst* may be the term for the crosspiece or for the notch in the crosspiece in which the stock rests.
- 60 Other terms that have been employed for this timber include: rudder rest (Reisner 1913 *passim*); rowlocks of the steering oars (Howard Carter's record of Obj. no. 597; see Jones 1990: pl. XXI); rudder support (Landström 1970: 147 no. 19); and cross-beam or transverse beam (Jones 1990: 59, Jones 1995: 38).
- 61 Jones 1988: 195 (III.190).
- 62 Jones 1988: 168 (III.72).
- 63 Jones 1988: 180 (III.119).
- 64 Jones 1988: 183 (III.131). Faulkner 1962: 204 proposes "haliard?"



- <sup>65</sup> Jones 1988: 171 (III.87).
- <sup>66</sup> Jones 1988: 172 (III.89).
- <sup>67</sup> Jones 1988: 64 (I.a.66).
- <sup>68</sup> Jones 1988: 94 (I.a.194).
- <sup>69</sup> Jones 1988: 228 VI.113.
- <sup>70</sup> Reisner 1913: 51-53, figs. 179-188, pl. XII.
- <sup>71</sup> Jaros-Deckert 1984: pl. 14.
- <sup>72</sup> Newberry n.d.1: pl. XVIII; possibly Davies and Gardiner 1920: pl. XVIII; Göttlicher and Werner 1971: pl2. XIII.3, XXXIV.6 (detail).
- <sup>73</sup> For a model with such a handle, see Göttlicher and Werner 1971: pl. XIII.3, XXXIV.6.
- <sup>74</sup> Jones 1988: 162 (III.44).
- <sup>75</sup> Jones 1988: 171 (III.43).
- <sup>76</sup> E.g., Meketre's models: Traveling Boats N, O, P and Q, Kitchen Tenders R and S (Winlock 1955: pls. 42, 43, 72, 73, 74, 75, 76. See pl. 84 for details). Also, Arnold 1981: 19 pls. 5, 6, 9. Its use is confined to Middle Kingdom boats with axial rudders.
- <sup>77</sup> Jones 1988: 191 (III.171).
- <sup>78</sup> For other examples, see Engelbach 1915: pl LVI no. 7, Davies 1925: pl. XXIV, Cooney 1965: 83 no. 51a, 87 no. 52 (BMA 60.197.9), and Davies 1926: pl. X, XI, XXI. All are New Kingdom.
- <sup>79</sup> Jones 1990: 59, Jones 1995: 52.
- <sup>80</sup> Hornell 1946: 285.

81 CT 397 (Faulkner 1973-78.2: 34). In the iconography, however, the cattle hide appears to be used.

82 Jones 1988: 156 (III.18).

83 Lipke 1984: 126, Patch and Haldane 1990: 43.

84 Lipke 1984: 103. The accuracy of the recorded measurements of the longest rowing-oars is in doubt; see Lipke 1984: 130 n. 51.

85 Lipke 1984: 24.

86 Lipke 1984: 25.

87 Lipke 1984: 126.

88 Lipke 1984: 126.

89 Lipke 1984: 25.

90 Lipke 1984: 126.

91 Haldane 1984: 58.

92 Haldane 1984: 30.

93 EM 4938 (Reisner 1913: 94-95, pl XXVII), half of the steering oar blade of a large model, the length of the blade being 32 cm.

94 For further details and references, see Haldane 1984: 30-31, 58-60, 78-79.

95 Cf. the description above with EM 4807 (Reisner 1913: 12 fig. 53, pl. IV), EM 4818 (*ibid.* 22 fig. 93), EM 4821 (*ibid.* 23 fig. 96), EM 4925 (*ibid.* 24 fig. 100), EM 4828 (*ibid.* 25 fig. 102 and others. Variations include: EM 4821-24 (*ibid.* 23-24 figs. 96-99) and EM 4826 (*ibid.* 25 fig. 101) and EM 4829 (*ibid.* 25 fig. 103).

96 E.g. EM 4943 (Reisner 1913: 95 fig. 347).

- 97 Jones 1990: 48-50.
- 98 Jones 1990: 48; cf. Jones 1990: 7.
- 99 Cf. comments on the black leopard from Tutankhamen's tomb (Gilbert, Holt and Hudson 1976: 149).
- 100 Reisner 1913: 6-7 fig. 24 (from EM 4801, pl. II).
- 101 Faulkner 1973-78.1: 56.
- 102 Wachsmann 1998: 310-13.
- 103 Jenkins 1980: 107 fig. 92.
- 104 Breasted 1906.4: 168 § 331.
- 105 For a relief with a decorated steering oar, see fig. 2-3.
- 106 Vinson (1987: 103) expresses doubt that these are necessarily rudders, suggesting that they may be pendants or tassels. I see no reason to question the identification of any but perhaps the sternmost (far left).
- 107 Reisner 1913: viii.
- 108 Dümichen 1869: 4.
- 109 Boreux 1925: 391-392.
- 110 Edgerton 1927: 256.
- 111 Boreux 1924: 391.
- 112 Hornell 1946: 241-53.
- 113 Cf. Boreux 1925: 324 fig. 109.

- 114 The terminology of "wings" and "transom" for the elements of this stern structure was recommended to me by Frederick Hocker (personal communication).
- 115 Boreux 1925: 388. Vandier (1969.2: 741) echoed his sentiments.
- 116 Boreux 1925: 390.
- 117 Lipke 1984: 83 fig. 52.
- 118 Lipke 1984: 79; 80 fig. 50; 81 fig. 51.
- 119 Boreux 1925: 471.
- 120 Breasted 1906.1: 66.
- 121 Edgerton 1927: 257.
- 122 Boreux 1925: 36-37. Cf. Vinson 1987: 181 for the "stanchions" of the boats on the Gebel el-Arak knife handle.
- 123 Edgerton 1927: 257-259.
- 124 Cf. the foremost steersman in Duell 1938.2: pl. 140.
- 125 Vandier 1969.1: 743.
- 126 Edgerton 1927: 259.
- 127 Edgerton 1927: 260.
- 128 Reisner 1913: xiii, Edgerton 1927: 260.
- 129 Landström's (1970: 50, 52-53 fig. 148) suggestion that the rudder rested against a rope run between two stanchions is less than convincing.
- 130 Boreux 1925: 401. Three of the seven vessels in this scene have two rudders, which are consistently placed on the far side. For a color facsimile of the boat on the right, see Davies 1902.2: pl. XIV.

- 131 Winlock 1955: pl. 45-48.
- 132 EM 4803 (Reisner 1913: pl. III).
- 133 Winlock 1955: 65.
- 134 Reisner 1913: xiii.
- 135 Reisner 1913: ix.
- 136 An unconventional side view of a cleat (drawn mounted on the starboard side) may be present in fig. 6-5.
- 137 Winlock 1955: 49.
- 138 Winlock 1955: pl. 70, 72-76, Arnold 1981: pl. 4, Göttlicher and Werner 1971: pl. LI.
- 139 Port: BM 25361 (Glanville 1972: pl. IVa), BM 41575 (Glanville 1972: pl. IVb).  
Starboard: BM 34274 (Glanville 1972: pl. VIIb).
- 140 Glanville 1972: pl. IVb.
- 141 Winlock 1955: 49.
- 142 Winlock 1955: 49.
- 143 James D. Macdonald, LT USNR, personal communication, September, 1997.
- 144 James D. Macdonald, LT USNR, personal communication, September, 1997.
- 145 Winlock 1955: 50.
- 146 Scott 1986: 64-65 no. 30.
- 147 Arnold 1981: pl. 4b.
- 148 Scott 1986: 65 n. 1.

- 149 Scott (1986: 65) identifies it as a cabin.
- 150 The decorated EM 5136-5140 may be either quarter rudders or, perhaps more likely, axial rudders. See Göttlicher and Werner 1971: pl. XXXV.9 (which is erroneously labeled EM 5169. This should probably read EM 5139).
- 151 E.g., Reisner 1913: 132 (EM 5127).
- 152 Jones 1990: 59.
- 153 Mott 1996: 32-34.
- 154 Jones 1990: 38, 59.
- 155 E.g., Anubis (jackal): BM 5505, 5506 (Glanville 1972: 30-31 fig. 65, pl XXa).
- 156 For a similar vessel with two quarter rudders, see fig. 6-51.
- 157 Davies 1926: 27.
- 158 The latest examples seem to be from Beni Hasan, and date to the time of Senwosret I (Dynasty XII). See Newberry 1893-94.2: pl. XII.
- 159 Wachsmann 1998: 31.
- 160 Tylor and Clarke 1896: 1. Notice that in fig. 6-58 the draftsman has the rudder stanchion doing double-duty as a mast crutch.
- 161 Epigraphic Survey 1979: pl. 20.
- 162 Landström 1970: 135.
- 163 For Roman and Western European examples, see Casson 1994: 130 fig. 95 and Casson 1994: 133 fig. 98.

164 Lichtheim 1973-80.1: 224. The term used for the boat is *wsb nm bm(w)*



boat is rather curious, but the author probably meant "without a helmsman," indicating a small craft. One must wonder if the author intended to mirror in this image Sinuhe's rash (unguided, rudderless) flight.

165 Glanville 1972: 16.

166 Glanville 1972: 18.

## CHAPTER VII

### ROWING AND PADDLING

You are like Montu within Thebes when you row Amon, when you row him during the millions of years that you are Ruler of the Two Lands.

Inscription in the Temple of Khonsu, Karnak<sup>1</sup>

### ROWING IN RELIGION, RITUAL AND RECREATION

“King as sportsman” motives in the Theban tombs lack any nautical feats.<sup>2</sup> However, among his athletic and martial accomplishments Amonhotep II had his scribes record the following on the Great Sphinx Stela:

Strong of arms, untiring when he took the oar, he rowed at the stern of his falcon-boat as the stroke-oar for two hundred men. Pausing after they had rowed half a mile, they were weak, limp in body, and breathless, while his majesty was strong under his oar of twenty cubits in length. He stopped and landed his falcon-boat only after he had done three miles of rowing without interrupting his stroke. Faces shone as they saw him do this.<sup>3</sup>

The hyperbole is obvious. Nevertheless, a rower's position aboard a royal or sacred vessel offered a chance for real advancement. The courtier Amenemhab declared that Amenhotep II “noticed me rowing won[derfully] with him in [his] vessel. . . . I was rowing [with(?)] both hands at his beautiful feast of Luxor. . . .”<sup>4</sup> These two men had known each other as boys,<sup>5</sup> but it was this nautical performance that caught the athletic king's eye.

The desire to row in the netherworld, stated for kings in the Pyramid Texts,<sup>6</sup> is repeated throughout the Coffin Texts and Book of the Dead.<sup>7</sup> The deceased has a seat in the divine barque, from which he rows.<sup>8</sup> He “rows and does not tire,”<sup>9</sup> nor does he die.<sup>10</sup> However lowly and uncomfortable the position of the oarsman in the mortal realm,<sup>11</sup> rowing is honorable labor, one engaged in by gods as well





Fig. 7-1. Thutmose III paddling in the netherworld. Painting. Valley of the Kings, Tomb of Thutmose III. Dynasty XVIII (Thutmose III). After Smith 1981: 264 fig. 257.

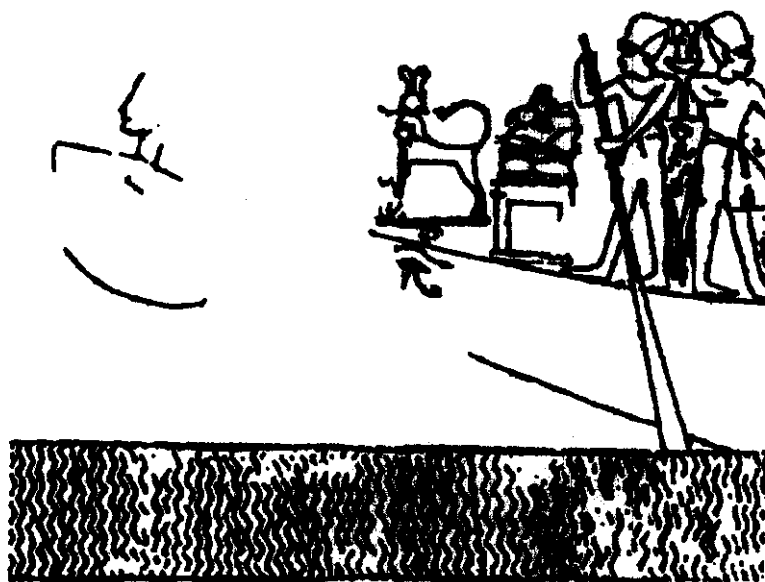


Fig. 7-2. The king paddling the sacred barge of Mut. Relief. Karnak, Temple of Amon. Dynasty XVIII (Tutankhamen - Horemheb). After Wreszinski 1988.2: pl. 199.

as by the deceased (fig. 7-1).<sup>12</sup>

The cow-headed goddess of love and fertility, Hathor, is particularly associated with oars and with rowing. In CT 332, the deceased claims to be "mistress of the oar in the Bark of Governance. . . I am Hathor, mistress of the northern sky."<sup>13</sup> The deceased also rows Hathor.<sup>14</sup> Referring to her waterborne festivities and the location of her cult center, CT 545 calls the goddess "many of rowings in Dendera."<sup>15</sup> The Egyptians honored a number of gods with such festivals, the most sumptuous being the Festival of Opet, which honored the Theban triad of Amon, Mut and Khonsu. In reliefs depicting this grand event, and others like it, the king himself ritually paddled or punted the sacred barges (fig. 7-2) or a papyrus raft to deliver offerings to the god.<sup>16</sup>

In other spells, the deceased removes himself from the crew and is rowed by various denizens of the netherworld.<sup>17</sup> Occasionally the deceased is referred to as the "oar (or: the good oar) of Re, with which he rows"<sup>18</sup> (fig. 1-7).

Like other pieces of equipment for the divine ferry, the oars and their associated equipment have magical names, frequently referring to hands, fingers or hair, all conjuring images appropriate for oars extending over the side of the hull:

- Oars: the Two Locks of Hair,<sup>19</sup> Hair-Comber,<sup>20</sup> him whose hair has fallen out<sup>21</sup>; the hand of Mafdet which rescued the leg(?) from the rage of those who ate the Great Ones,<sup>22</sup> the movement which are in the hand(s) of Horus when he travels,<sup>23</sup> fingers of Horus the First-Born,<sup>24</sup> the fingers of Horus the Elder<sup>25</sup>; shank of Geb and the thigh of the Winepress-god<sup>26</sup>; the gods and souls of Nekhen<sup>27</sup>; staves(?) of Hapy<sup>28</sup>

- Grommets: the hands of the magic image of the Great One who guides them<sup>29</sup>

Sounding-poles are equated with the rowers of Osiris's sacred neshmet-barque.<sup>30</sup>

## TERMINOLOGY OF OARS AND PADDLES

Like their counterparts used for steering (see chapter VI), a paddle or oar for propelling a vessel

consists of two basic parts: loom and blade. The terminologies of rowing and steering oars are similar but not identical.

A paddle, or possibly a steering paddle, was known as *m'wḥ* or *mywḥ*.<sup>31</sup> Generally, rowing oars are known as *wsr*<sup>32</sup> or *hpt*,<sup>33</sup> while that oar used to set the pace is *štyt*.<sup>34</sup> The blade is known as a "wing," *dnḥ*,<sup>35</sup> the loom perhaps *lb'yt*.<sup>36</sup> Whether the term *ḥm't* refers to blade or loom is not clear.<sup>37</sup> Oars are worked in grommets known as *ḡḥ'*, *ḡḥr*,<sup>38</sup> or *ḥs'*.<sup>39</sup>

A rower is known as *ḥpwty*,<sup>40</sup> *ḥmy* (?),<sup>41</sup> *ḥnw*<sup>42</sup> or *škd*.<sup>43</sup> Rowers were organized into a crew (*ḥnyr*<sup>44</sup> or *lšwt ḥnyr*<sup>45</sup>), company (*s'w*)<sup>46</sup> or gang (*mn*),<sup>47</sup> commanded by an overseer (*lmy-r*),<sup>48</sup> deputy (*ldnw*),<sup>49</sup> director (*ḥrp*)<sup>50</sup> or commander (*ḡsw*)<sup>51</sup> of rowers. There were also *wr ḥpt* (elder of the *ḥpt*-oar)<sup>52</sup> and *nb ḥpt* (master of the *ḥpt*-oar).<sup>53</sup> The *štyt*<sup>54</sup> led the stroke, and the *wḥmw* transmitted orders to the crew.<sup>55</sup> A scribe of rowers was *šš n ḥmww*.<sup>56</sup>

The rowers took (*ḡt*,<sup>57</sup> *šsp*,<sup>58</sup> *šp*)<sup>59</sup> their oars or "beat" (*sw'*,<sup>60</sup> *št*)<sup>61</sup> them. A phrase for the stroke of the oar, seldom encountered, is *špl*.<sup>62</sup>

The carpenter who made the oars was known as *ḥmw wšrw*,<sup>63</sup> and he was said to shape (*dk'*)<sup>64</sup> them.

## OARS AND PADDLES OF THE OLD KINGDOM

From reliefs and paintings we know that in the Old Kingdom a variety of oars and paddles were in use. Most common of these is the elongated shape typified by the Khufu I oars (fig. 7-3). Boreux called this form *losange*, myrtiform and lanceolate, and considered it a development of the pear-shaped or *peltée* paddle blade<sup>65</sup> (fig. 7-4). Such direct evolution is unlikely, as both rounded and lanceolate forms had already appeared during the Predynastic Period (cf. fig. 4-2, fig. 7-5) and continued to be used side-by-side through the Old Kingdom. In the Dynasty V tomb of Serfka the north half of the west wall displays a nautical scene containing two registers of boats (fig. 7-6). The lower register shows a sailing traveling-



Fig. 7-3. Lower portion of an oar from the Khufu I vessel. Wood. Giza, Pyramid Complex of Khufu. Dynasty IV (Khufu). After Jenkins 1980: 106 fig. 91.

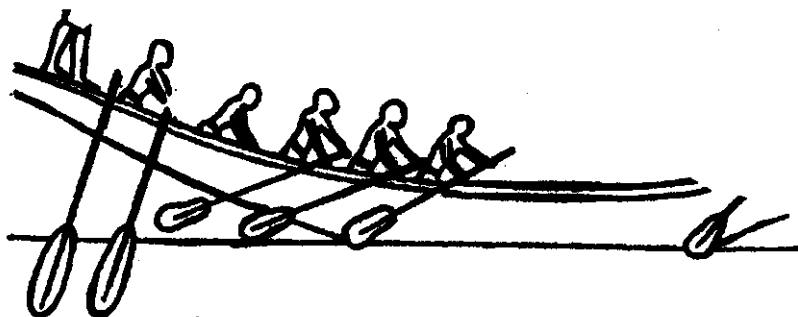


Fig. 7-4. Boat paddled with *peltée* blades. Relief. Dynasty IV. Giza, Tomb of Kaemsekhem. After Boreux 1925: 343 fig. 124b.

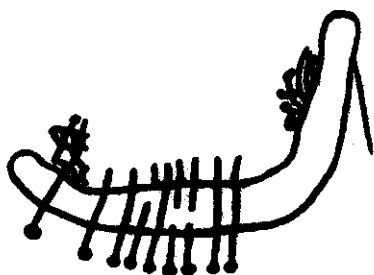


Fig. 7-5. Boat. Petroglyph. Predynastic Period. After Vinson 1987: 134 fig. 57A.

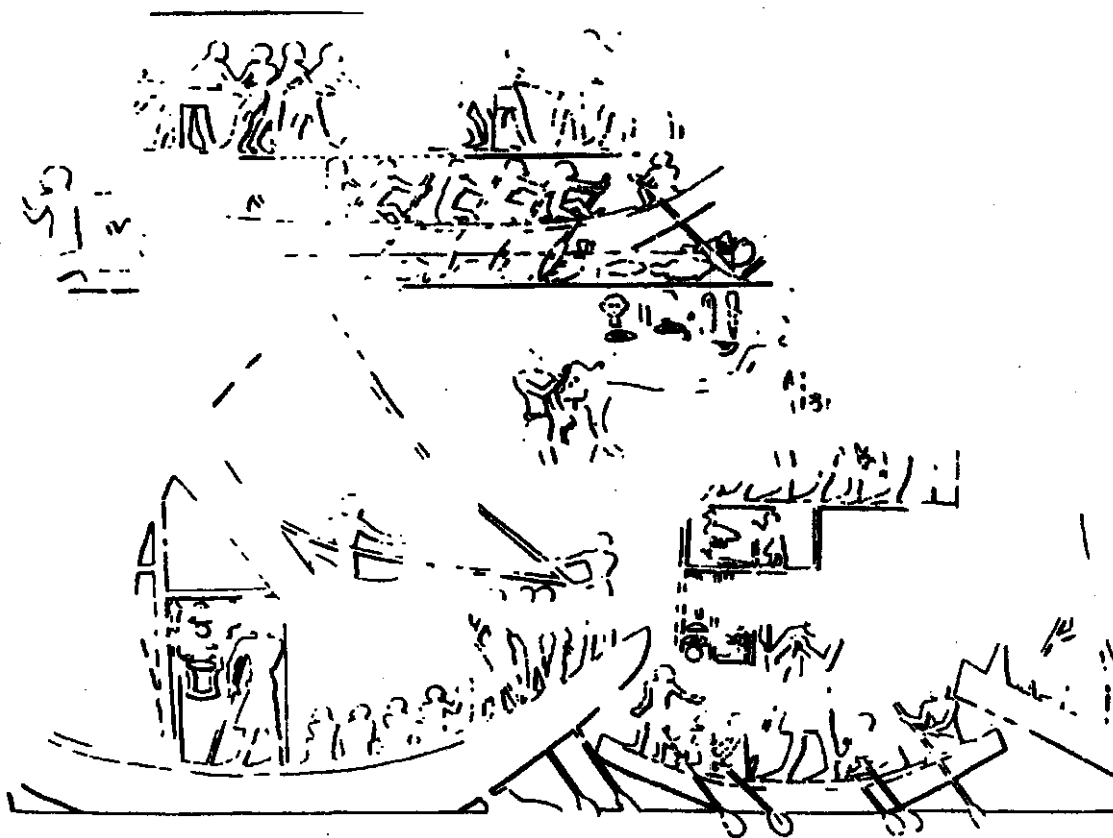


Fig. 7-6. Fishing and traveling boats. Relief. Sheikh Said, Tomb of Serfka. Dynasty V. From Davies 1901: pl. V.

blades have a rounded tip but lack the "waist" of the *peltées* and are confined during the Old Kingdom to paddles.

Each of the twelve oars of the Khufu I vessel<sup>66</sup> (fig. 7-3) is carved from a single piece of wood, perhaps *Ostrya carpinifolia*.<sup>67</sup> Each measures between 6.58 and 7.8 meters in length and is estimated to have weighed approximately 57 kilograms, an enormous weight.<sup>68</sup> This is approximately half again the length of the oars of an Athenian trireme<sup>69</sup> and more than threefold the weight of the original *Pinus* oars used in the reconstructed trireme *Olympias*.<sup>70</sup>

The structure of elongated blades in relief follows that of those of the Khufu I vessel: a loom without a specialized area of grip, fairing into the tip of the blade. Blades of other shapes, such as the pear-shaped blades in fig. 7-4, appear similarly constructed.

In a Dynasty VI workshop scene (fig. 7-7), at least six of the twelve craftsmen apply an adze to a loom. These looms seem short for oars, but similar proportions are found in the oars in fig. 7-4, and caveats regarding scale have already been established in chapter V.

## OARS AND PADDLES OF THE FIRST INTERMEDIATE PERIOD AND MIDDLE KINGDOM

The numerous manned model boats of the Middle Kingdom provide more information with regard to oars and paddles than the two-dimensional sources of the Old Kingdom. The models from the tomb of Meketre (Dynasty XI), which comprise examples of several kinds of watercraft, will provide the focus of this discussion.

Paddles are used for both wooden boats (Yachts U and W, Sporting Boat X) and reed rafts (Fishing Rafts Y). All the paddles are identical, each having a short loom and spaded blade, above which is painted a yellow band (fig. 7-8).<sup>71</sup> There is no specialized grip on the loom, which is round in cross-section and tapers to a central ridge down the length of the blade, which is not, consequently, flat in cross-section, but somewhat diamond-shaped. A chevron is incised on the blade.<sup>72</sup>

Seen *en face*, the typical Middle Kingdom oarblade reaches its maximum width nearer the tip than does a paddleblade (fig. 7-9); the loom appears to protrude beyond the blade.

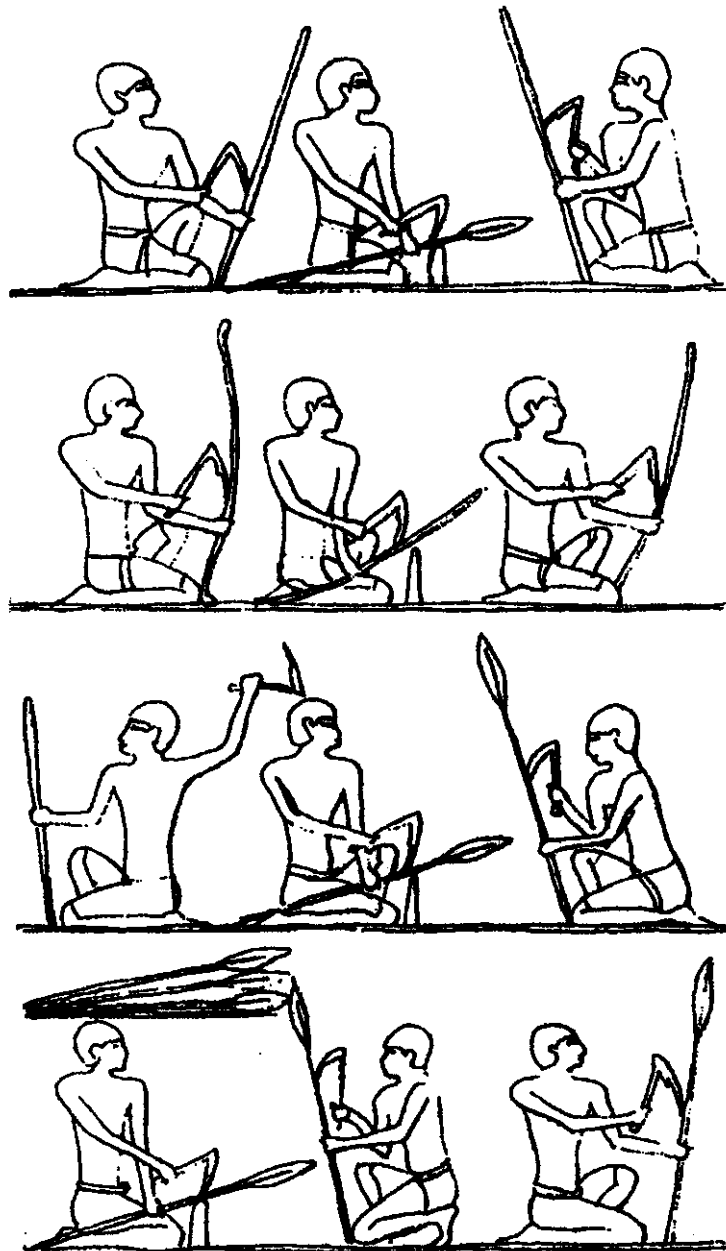


Fig. 7-7. Oar-makers and other carpenters. Relief. Zawyet el-Amwat, Tomb of Khunes. Dynasty VI.  
After Lepsius 1849-59.4: pl. 108.

a yellow band (fig. 7-8).<sup>71</sup> There is no specialized grip on the loom, which is round in cross-section and tapers to a central ridge down the length of the blade, which is not, consequently, flat in cross-section, but somewhat diamond-shaped. A chevron is incised on the blade.<sup>72</sup>

Seen *en face*, the typical Middle Kingdom oarblade reaches its maximum width nearer the tip than does a paddleblade (fig. 7-9); the loom appears to protrude beyond the blade.

A side view of this oar reveals the real difference between the Middle Kingdom oar and its Old Kingdom predecessors: it has not a flat blade but rather a concave, spoon blade. Spoon blades help to improve the rower's leverage in such calm waters as the Nile usually presented,<sup>73</sup> and are generally acknowledged to make for a faster boat.<sup>74</sup> The tip may have been intended to prevent the lower edge of the blade from breaking and to allow the spoon to serve as a quant in shallow waters. These blades appear in paintings as well, their protruding tips clearly visible (fig. 7-10).

The precise form of a spoon-blade varies. Besides that style found in Meketre's tomb just described, they may be oval (figs. 7-11.B, D) or nearly octagonal (fig. 7-11.A), and similar variations (fig. 7-11.C). A refined variation of the spoon blade has a thinner section, with the edges of the blade not curving up to form the bowl of a spoon, but remaining flat. The end of the blade is tapered and curved, resulting in a lachrymiform (tear-shaped) appearance, and there may be the suggestion of a central ridge (fig. 7-12). That this was probably not the fancy of the woodcarver is suggested by its appearance in two-dimensional representations, also from the same period (fig. 1-18).

In models, spoon blades tend to be white.<sup>75</sup> Possibly blades of working oars were, like those of models, painted<sup>76</sup> or made of a different wood. A Dynasty XII model spoon (EM 4895) has black lines on the front and back of the blade, crossing the stock (fig. 7-13), indicating lashing.<sup>77</sup> In this example, like fig. 7-11.D, and, to a lesser extent, fig. 7-11.B, the stock is faired into the blade only on the front.

A number of curious blade shapes also occur. EM 4911, which is similar to BM 21805, dated to Dynasty VI,<sup>78</sup> BM 9509, dated to Dynasty VI or the First Intermediate Period,<sup>79</sup> and a model from the Dynasty XI tomb of Ini at Gebelein,<sup>80</sup> carried faintly spooned, asymmetrical oars with arched looms (fig. 7-14).<sup>81</sup> Oars with no flare to the blade, only a slight flattening and hook were also used (fig. 7-15; cf. fig. 6-45).<sup>82</sup>





Fig. 7-8 Model paddle with spaded blade. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II).  
From Winlock 1955: pl. 86.



Fig. 7-9. Model oar with spoon blade. Wood. Meir, Tomb of Meketre. Dynasty XI (Mentuhotep II).  
From Winlock 1955: pl. 86.

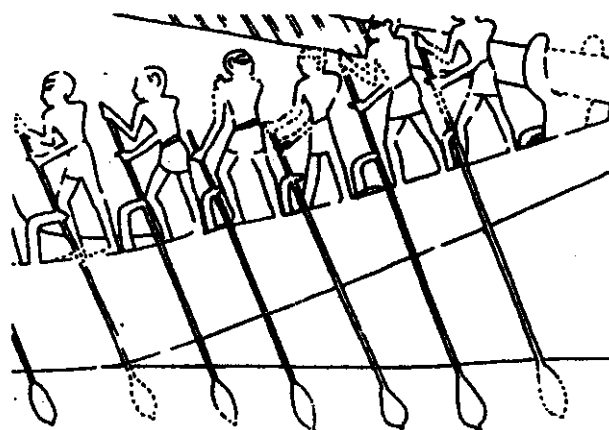


Fig. 7-10. Oars with spoon blades. TT 60. Dynasty XII (Senwosret I). From Davies and Gardiner 1920: pl. XVIII.

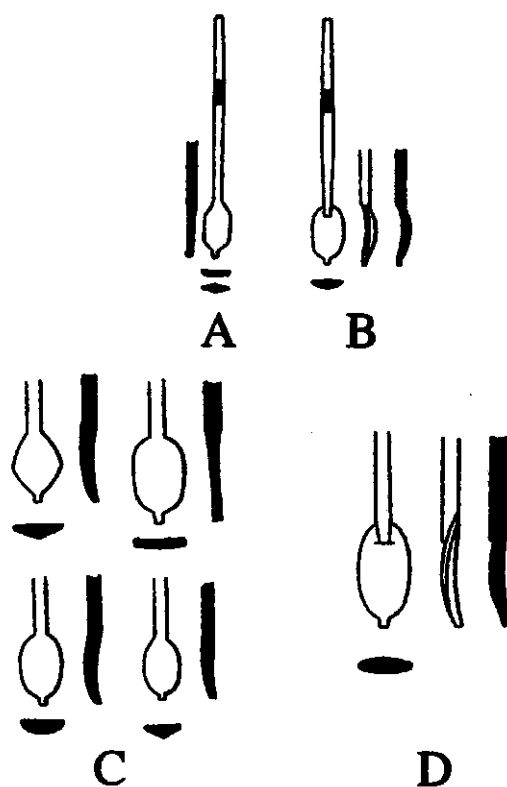


Fig. 7-11. Model oars with spoon blades. Wood. Meir. Middle Kingdom. A: EM 4862. From Resner 1913: 46 fig. 162. B: EM 4863. EM 4863. From Resner 1913: 46 fig. 163. C: EM 4870. From Resner 1913: 49 fig. 171. D: EM 4871. From Resner 1913: 49 fig. 172.

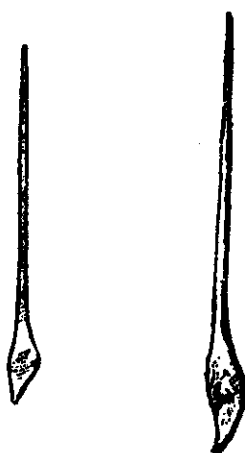


Fig. 7-12. Model oars with lachrymiform blades (BM 41575). Wood. Beni Hasan. Dynasty XII. From Glanville 1972: 27 fig. 25a, b.

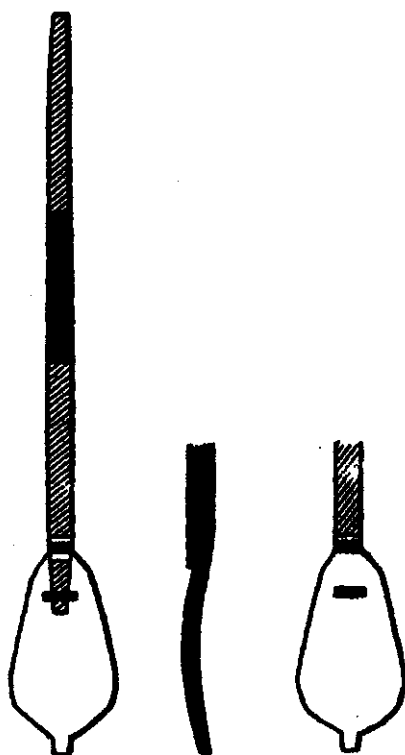


Fig. 7-13. Model oars with spoon blades (EM 4895). Wood. Meir. Middle Kingdom. From Reisner 1913: 60 fig. 215.



Fig. 7-14. Model oar with an asymmetrical blade (EM 4911). Wood. Luxor. Dynasty VI-Dynasty XI. From Reisner 1913: 67 fig. 245.

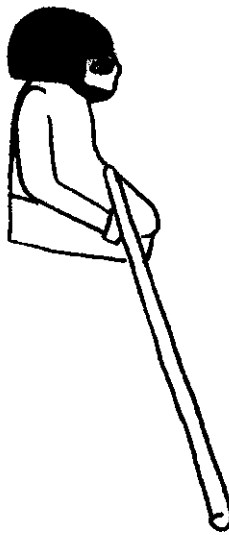


Fig. 7-15. Model rower pulling a "bladeless" oar (West Berlin 1232). Wood. Middle Kingdom? After Götlicher and Werner 1971: pl. XXXVI.2.

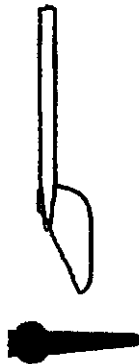


Fig. 7-16. Fragment of paddle? (EM 4927). Wood. Dashur. Dynasty XVII (Senwosret III). From Reisner 1913: 87 fig. 325.

A fragment of what may be a working oar or paddle is known: EM 4927 (fig. 7-16).<sup>83</sup> It consists of a fragment of loom and blade, the remains being 89 cm in length. If Reisner's drawing is to scale, the blade measures at its widest approximately 28 cm, and the loom is approximately 5 cm in diameter. Although Reisner is not explicit, it may belong to one of the Dashur boats, buried in association with the pyramid complex of Senwosret III. As these boats appear to have no provision for grommets,<sup>84</sup> this may be a paddle.

Many model oars have a band more or less midway along the loom (figs. 7-13, 7-11.A, B). This could represent a leather band or paint used to prevent the wood from rubbing hard on the planksheer (cf. similar bands on rudders, discussed in chapter VI). Such bands are also common just above the top of the blade (fig. 7-13).

## OARS AND PADDLES OF THE NEW KINGDOM AND LATE PERIOD

Oars from New Kingdom boat models are exceedingly rare. There seem to be only four such sets: from the silver model boat from the tomb of Ahhotep; from the gold model boat from the tomb of Ahhotep;<sup>85</sup> and from two sets from wooden model boats from the tomb of Amenhotep II.<sup>86</sup> The oars from Ahhotep's models have round-ended flat blades without the projecting tip of Middle Kingdom oars. The oars from Amenhotep II's models are described but not illustrated by Reisner:

(EM 5144): Long handle; narrow oval blade. End of handle, broken off on nos. 1 and 2.

Unpainted.<sup>87</sup>

(EM 5145): Round handle, narrow blade. Handle continued along back of blade nearly to tip.

Blade, red; handle yellow.<sup>88</sup>

An Amarna Period relief in the Brooklyn Museum of Art (BMA 65.16) also portrays what appears to be an oar-maker (fig. 7-17). The scene takes place riverside; a young stevedore carries water or wine in a pair of jugs balanced on a yoke to an estate (?). The bow of a boat with lowered spars sits moored nearby. Above, situated in the shade of reed matting, a carpenter sits on a stool, applying an adze to a long piece of wood. Above him is an object that appears to be a narrow, ovate paddle- or oarblade, complete but not yet attached to the loom. This is a puzzling piece, because blades of this shape do not appear in this period.



Fig. 7-17. Riverbank scene (BMA 65.16). Relief. Amarna. Dynasty XVIII (Akhenaten). After a photograph by the author.

Damage to the upper edge of this object makes its identification less than certain. There is a definitive scene of oar repair from a rock tomb at Amarna, with typically New Kingdom oarblades (fig. 5-5).<sup>89</sup>

Construction details are all but lacking in New Kingdom scenes. In fig. 5-5, for example, the oar held by the man on the left and the oar held by the carpenter's assistant show that the loom extends down the blade, but the bundled oars do not. Blades from this period are, with rare exception, ovoid (figs 1-7, 1-9, 1-10, 1-11, 4-10, 5-5, 6-56.A, 6-63, 6-66, 7-1). Oars exhibiting an extraordinary degree of roundness (figs. 6-55.B, 6-64) should be understood as artistic convention.

### LANYARDS, GROMMETS, OARLOCKS AND THOLES

To prevent its loss, the Egyptians tethered the oar with a lanyard. During the Old Kingdom, this line of rope or leather was looped around the loom just above the blade (in the Middle Kingdom, it might be reeved through a mortise in the blade),<sup>90</sup> and led up to the grommet or the grommet mortise (fig. 7-18), the bulwark (figs. 6-18) or deck rail (fig. 6-25). During the Old Kingdom lanyards hung loose between its points of attachment, although when the oars have been shipped they are looped around the loom.<sup>91</sup> By the New Kingdom the Egyptians had begun to loop them around the loom while the oars are in use (figs. 4-10, 7-19). How lanyards were fastened to the hull cannot be ascertained from the surviving illustrations.

While a paddler requires no more equipment than his paddle, a rower must have something against which to work his oar. Appearing first in art of the Old Kingdom, grommets (oar loops, oarstraps) were used. These, of either leather or rope,<sup>92</sup> were reeved through mortises on the planksheer (fig. 7-20) or bulwark (fig. 7-18), or were fastened to the deck rail (fig. 6-25). In the reconstruction of the Khufu I ship, grommets pass through the side longitudinal girders inboard of the planksheer.<sup>93</sup> Draftsmen rarely depicted grommets when the oars are not in place (but do in fig. 7-21) and, like modelmakers, commonly omitted them altogether, even in the presence of rowers (figs. 1-10, 1-11, 1-13, 1-18, 6-4, 6-5, 6-6, 6-13, 6-26, 6-30, 6-59, 6-63, 6-64, 6-66, 7-10).

Two Old Kingdom relief fragments found re-used in the Dynasty -XII pyramid of Amenemhat I at Lisht (MMA 22.1.16 and ROM 958.493) illustrate the use of wooden oarlocks (fig. 7-22).<sup>94</sup> Each oarlock appears to consist of a block of wood notched on the top to receive the loom. B. Landström

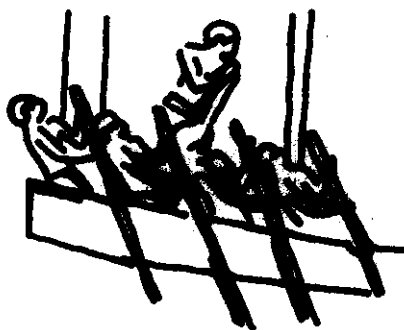


Fig. 7-18. Rowers. Relief. Saqqara, Tomb of Khnumhotep. Dynasty V. After Petrie 1952: pl. XVII.2.

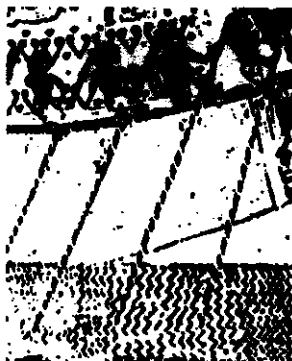


Fig. 7-19. Rowers. Painting. TT 63. Dynasty XVIII (Thutmose IV). From Dziobek and Raziq 1990: pl. 24a.

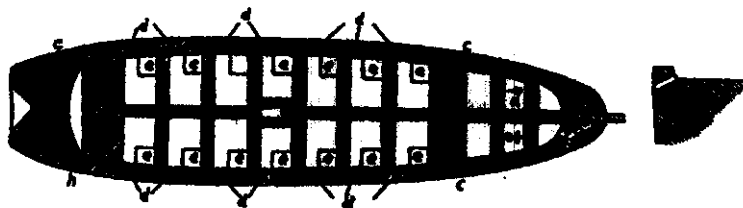


Fig. 7-20. Model boat with mortises for grommets (EM 4869). Wood. Meir. Middle Kingdom. From Reisner 1913: 48 figs. 168, 170.



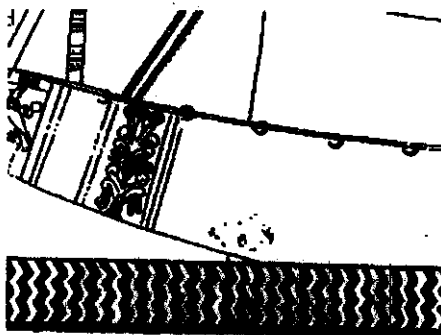


Fig. 7-21. Grommets without oars in place. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. LXIX.

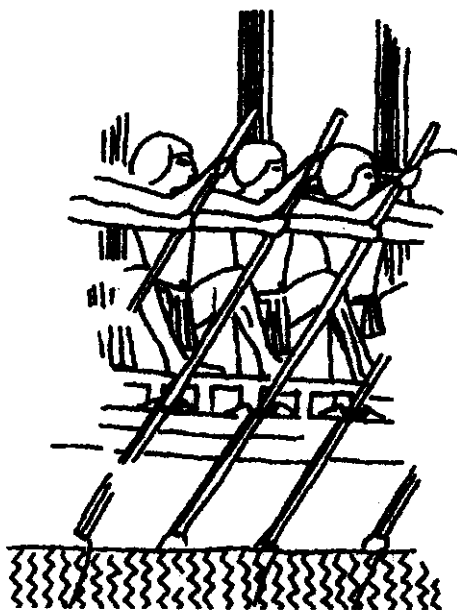


Fig. 7-22. Rowers using oarlocks (MMA 22.1.16). Relief. Lisht. Old Kingdom. After Landström 1970: 69 fig. 202.

suggests that the oars of MMA 22.1.16 are for steering,<sup>95</sup> but ROM 958.493, of which Landström was apparently unaware, bears out that they are indeed stations for rowers.

Hooked objects identified by N. Davies and A. Gardiner as tholes<sup>96</sup> (fig. 7-23) appear in the Theban tomb of Antefoker and Senet (TT 60), dating to the reign of Senwosret I. The contemporary tomb of Amenemhat at Beni Hasan yields an image of a very similar ship, and another in which the hooks are unoccupied and the ship is sailed (fig. 7-24). Hooks appear again in the tomb of Sehetipibre (fig. 7-25). In each case these objects reach to mid-calf or nearly to the knee of the rowers who stand beside them, and curve forward. Their relationship to the rowers and oars is somewhat ambiguous: although sometimes the loom of the oar appears to pass under them (e.g., the foremost rower in fig. 7-23), a rower's leg may come between them and the viewer (the seventh rower from the bow in fig. 7-23). Davies and Gardiner write that the rowers in fig. 7-23 "seem to be pushing the oars against a bent thole pin, like a gondolier; but this would give the wrong direction to the craft. They are really *pulling* but the pins have been placed on the wrong side of the oars."<sup>97</sup> Landström further describes these as outriggers for oarsmen in a shallow craft, curving not forward but outboard (fig. 7-26).<sup>98</sup> D. Jones follows this interpretation.<sup>99</sup>

Elsewhere, however, the draftsmen have employed these hooked objects as something other than tholes. In the Beni Hasan tomb of Amenemhat (fig. 7-27) and in the tomb of Sarenput I at Elephantine (fig. 7-28), rowers sit on them, even as in later depictions, rowers sit on "mushroom"-shaped seats (fig. 7-29) or benches (fig. 7-30).<sup>100</sup>

Although Vandier calls all these objects seats for the rowers,<sup>101</sup> there remains the possibility that Davies and Gardiner are correct, later draftsmen having copied earlier boats and misinterpreted the tholes as seats. The early example in which rowers sit upon them, could be an error by the artist, who wanted to show the rowers in a later stage of the rowing stroke (see below). However, there is three-dimensional evidence that this is not the case.

A number of Middle Kingdom models have rowers' seats. In several cases (fig. 7-31), the form is clearly hook-shaped. That these objects are not tholes, meant to be oriented so as to curve outboard, is made clear by the fact that they are wide, rather than finger-like, and that model rowers sit on them. Additional evidence comes from the paintings themselves: there is a hook abaft the sternmost rower, and there is no hook forward of the foremost rower.

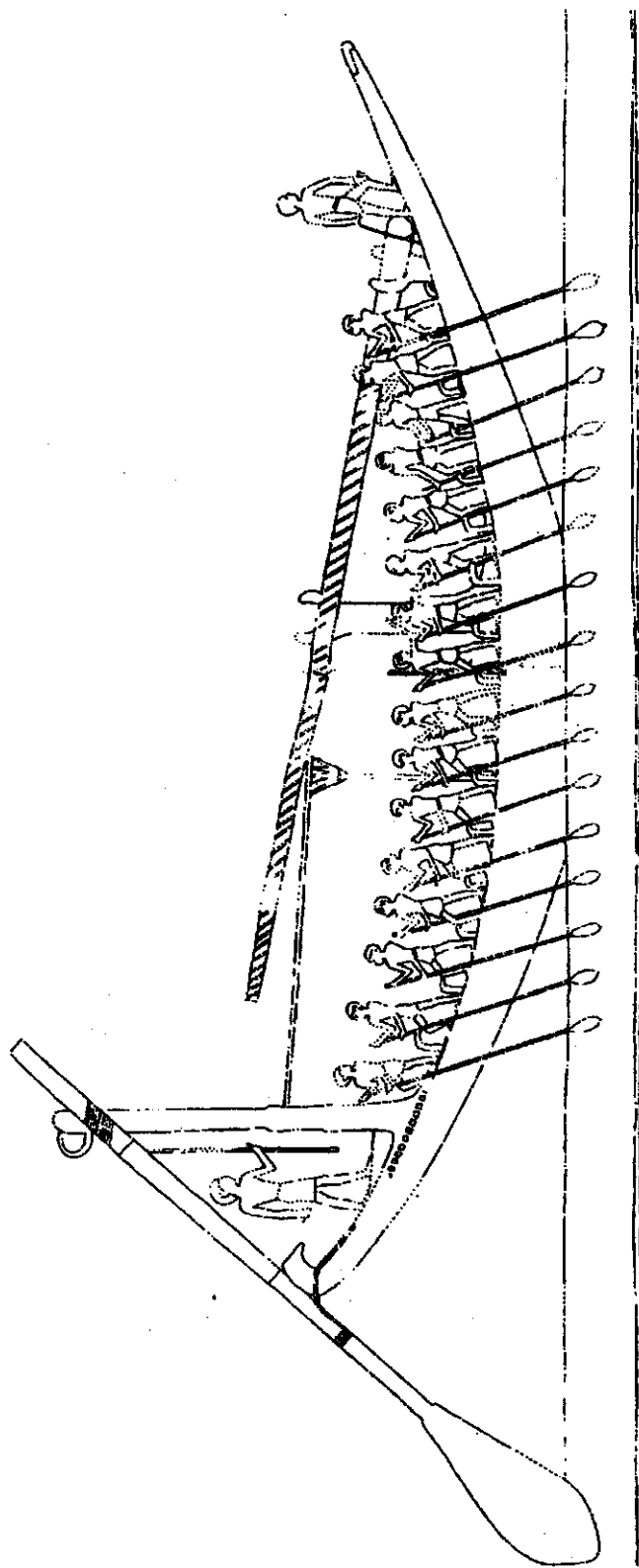


Fig. 7-23. Rowed boat. Painting. TT 60. Dynasty XII (Senwosret I). From Davies and Gardiner 1920: pl. XVIII.

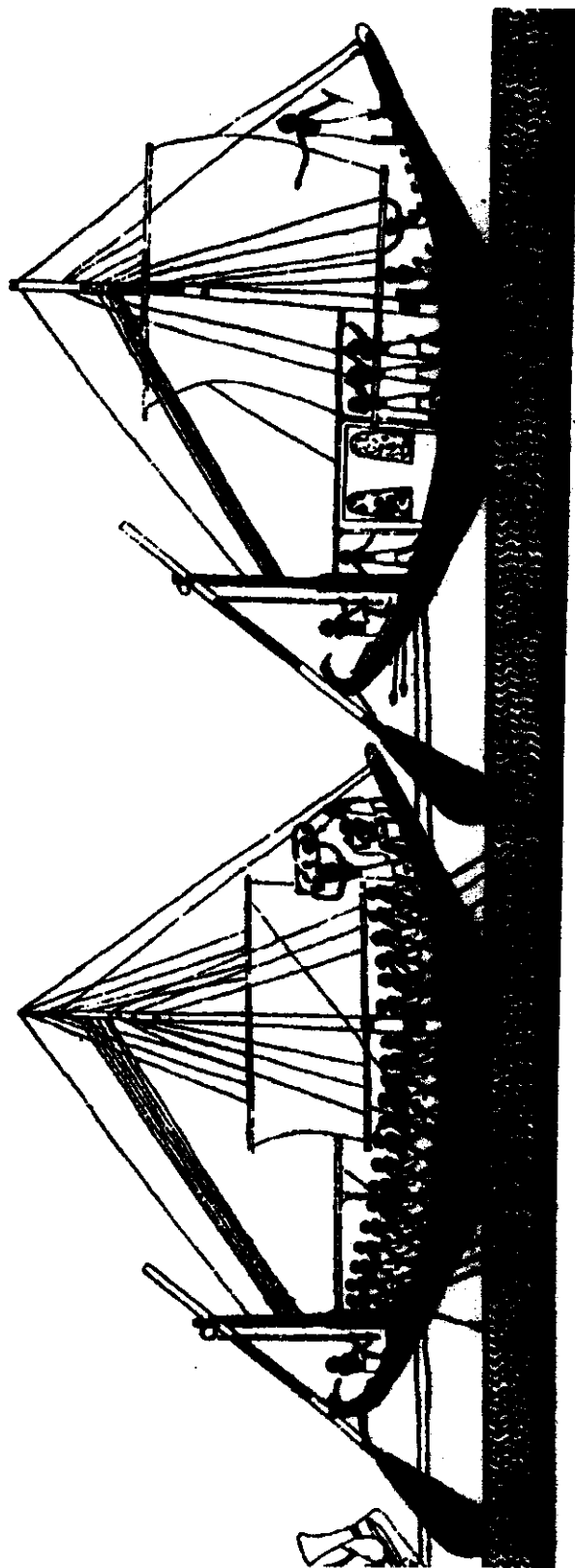


Fig. 7-24. Boat procession. Painting. Beni Hasan, Tomb of Amenemhat. Dynasty XII (Senwosret I). From Newberry 1893-94.1: pl. XIV.



Fig. 7-25. Boat procession. Karnak (Ramesseum), Tomb of Sehetipibre. Dynasty XII (Senwosret I). After Vandier 1969.1: 915 fig. 344, 1.

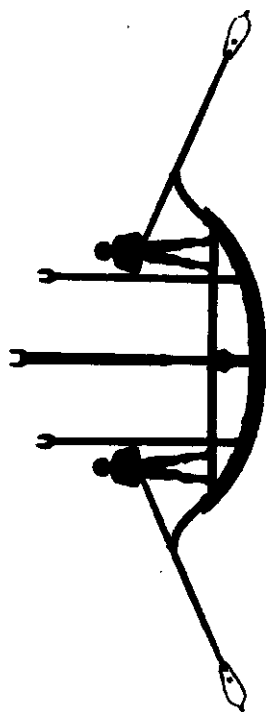


Fig. 7-26. Reconstruction of boat in fig. 7-23, proposed by B. Landström. After Landström 1970: 85 fig. 257.

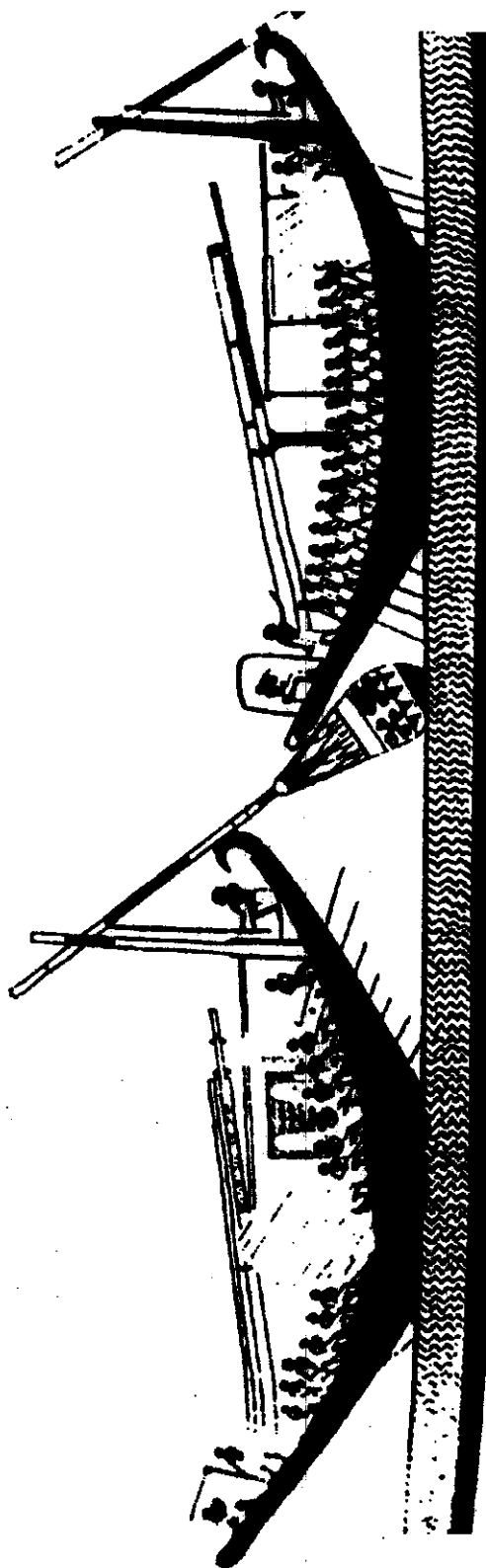


Fig. 7-27. Boat procession. Painting. Beni Hasan, Tomb of Amenemhat Dynasty XII (Senwosret I). From Newberry 1893-94.1: pl. XVI.

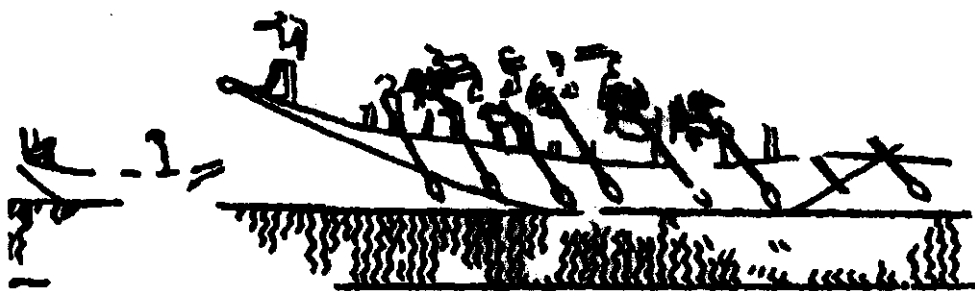


Fig. 7-28. Boat procession. Elephantine, Tomb of Sarenput I. Dynasty XII. After Vandier 1969.1: 913 fig. 342.

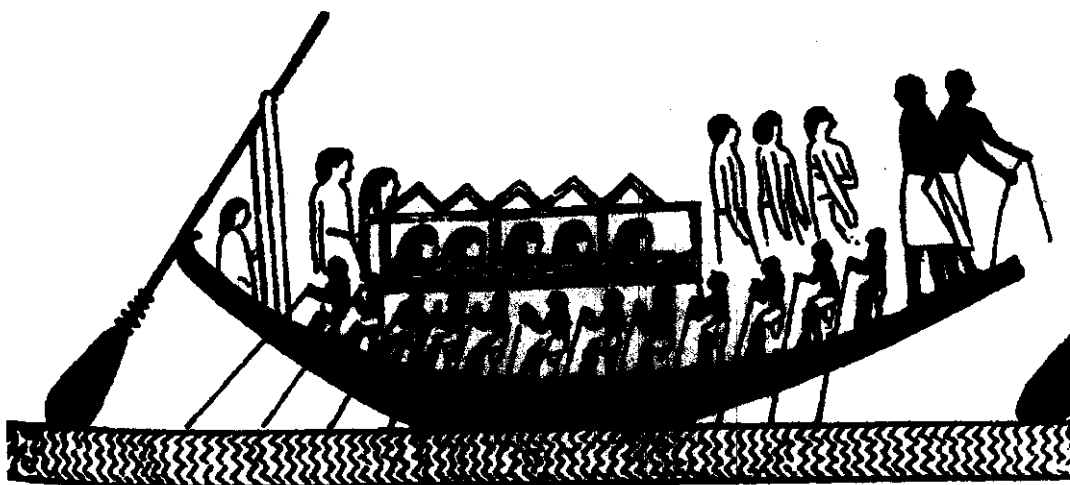


Fig. 7-29. "Harim vessel." Painting. Beni Hasan, Tomb of Khnumhotep. Dynasty XII (Senwosret II). From Newberry 1893-94.1: pl. XXIX.

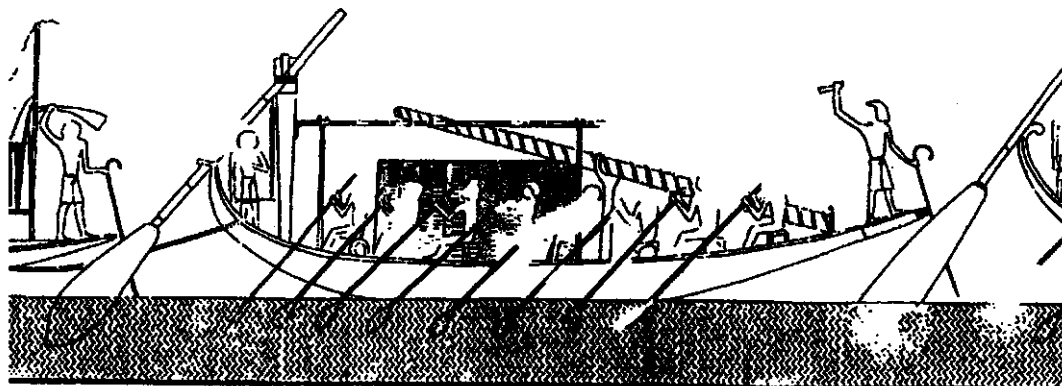


Fig. 7-30. Boat procession. El Bersheh, Tomb of Djehutihotep. Dynasty XII (Senwosret III). From Newberry n.d.1: pl. XVIII.

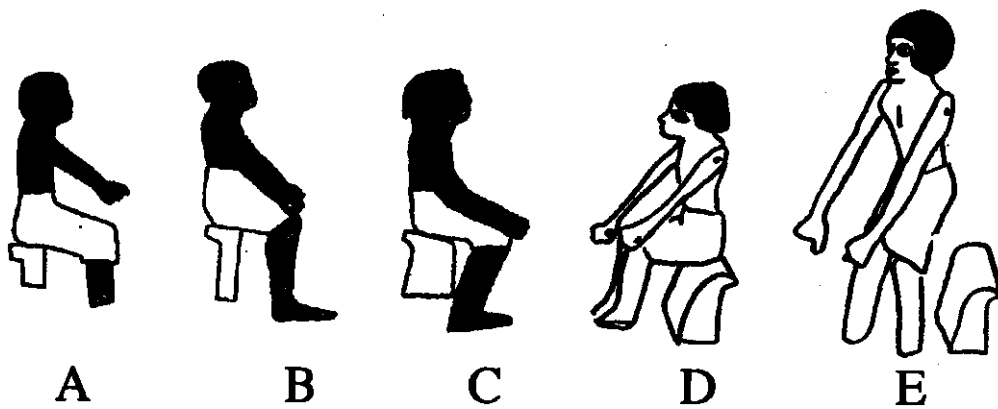


Fig. 7-31. Model rowers' benches. Wood. Middle Kingdom. A: EM 4806. From Reisner 1913: 12 fig. 50. B: EM 4867. From Reisner 1913: 47 fig. 165. C: EM 4845. From Reisner 1913: 33 fig. 129. D: BM 34273. After Glanville 1972: 40 fig. 39c. E: BM 34273. After Glanville 1972: 40 fig. 39d.

Therefore what has been interpreted as tholes are, in fact, rowers' benches. There is no evidence that Egyptians ever used outriggers or thole pins during the pharaonic era.

## PADDLERS IN PREDYNASTIC ART

In Predynastic images of boats, the crew is often absent (fig. 5-1) or implied only by their paddles. Paddle blades are usually rounded (fig. 7-5), occasionally lanceolate (fig. 4-2) or spaded (fig. 4-1). Lines that extend from the bottom<sup>102</sup> of many of these vessels (fig. 4-2), rarely from the sheer (fig. 7-32), are paddles, drawn without blades. In some cases, there are no paddlers stationed beside the cabins, indicating that aboard some boats there was insufficient room outboard of the cabins to accommodate them (figs. 4-2, perhaps 7-32); boats apparently wide enough for paddlers to be stationed beside the cabin appear in figs. 4-1 and 7-33. Fig. 7-32, with "rower-like" lines on the cabin, is ambiguous.

Whether or not during this period the complement from one or both sides of the vessels is depicted in sheer views (figs. 4-2, 6-11, 7-5 7-32, 7-33) remains open to question. In a breadth view, an Amratian boat has eight paddlers on one side, nine on the other (fig. 4-1). This asymmetrical distribution of paddles occurs also in sheer views in which both complements appear (fig. 7-33).

The most detailed illustration of a boat from this period is found on the painted linen fragments from el-Gebelein (fig. 6-11). Aboard the larger of the two boats, a helmsman sits high in the stern, working the steering-paddle. Directly before him sit four paddlers, while others appear to the right of a lacuna. These four are so crowded together that the draftsman had to shorten their arms to mere stumps. It appears, however, that the far arm is straight and high on the loom; the near arm is bent at the elbow and low. The looms are not straight: they are "hooked" where they pass beyond the hull, thus angling back as do paddles in "unmanned" boats (figs. 4-2, 7-5).

Note that although the draftsman has drawn four paddlers, there are six paddles. One of the "extra" paddles disappears at the bottom of the boat, clearly assigning it to the complement on the far side of the boat. The attribution of the second "extra" paddle is lost to a lacuna, but perhaps was the same. This may indicate that in depictions of "unmanned" vessels the full number of paddles, rather than only those visible on the near side, is shown. However, caution should be exercised: it is doubtful that the draftsman carefully counted his strokes in these summary illustrations or intended to indicate anything more specific



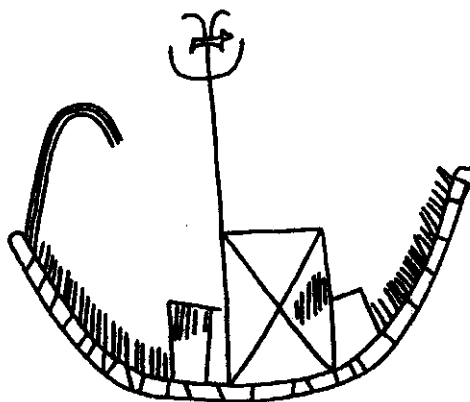


Fig. 7-32. Boat or raft. Petroglyph. Kagug-Shibeka. Late Predynastic Period. After Vinson 1987: 149 fig. 67.B.

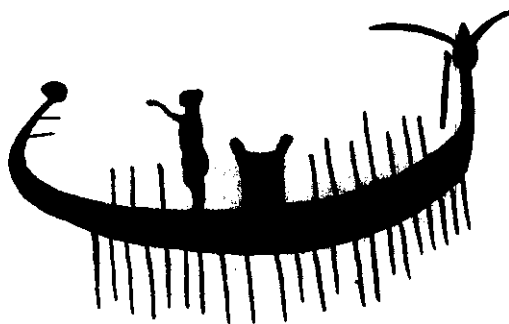


Fig. 7-33. Boat. Petroglyph. Aswan. Late Predynastic Period. After Vinson 1987: 148 fig. 66.C.

than "many paddles." Attempts to estimate the size of Predynastic boats by counting the number of paddlers is dubious work at best.<sup>103</sup>

## THE POSITIONS OF PADDLERS

As there is no evidence that the Egyptians ever push rowed (i.e. rowed facing forward),<sup>104</sup> all depictions of forward-facing men engaged in propelling a boat must be either paddling (e.g., figs. 7-4 middle boat in lower register, 7-6) or punting (fig. 1-3).<sup>105</sup> Because the draftsman may choose to obscure the lower end of the implement, it can be difficult to differentiate between these two activities, especially in scenes of small boats or rafts.

Paddlers kneel (fig. 1-4) or more rarely stand (figs. 7-1, 7-2) on deck, facing forward.<sup>106</sup> Aboard larger wooden boats they may have sat on thwarts (fig. 7-4; cf. fig. 6-11?). Aboard Meketre's Fishing Rafts Y, maneuvering with a net between them, the paddlers (two for each raft) kneel on the starboard side.<sup>107</sup>

Egyptian draftsmen employed several conventions to render the paddler's grasp in two dimensions. The most common was to draw both arms straight, the far hand held high, the near hand low (figs. 1-4, 7-4). Occasionally these positions may be reversed (fig. 7-1), inadvertently creating a position impossible for a three-dimensional figure to duplicate while retaining the ability to paddle effectively.

Uncommonly, paddlers may hold their hands close together on the loom. When their hands are near the bulwark or planksheer, this gives the impression that they are at rest (fig. 7-34). In fact, idled paddlers assume a similar position (fig. 4-4). Aboard small craft, a paddler may brace his paddle like a quant pole to hold a small vessel in position or back water (fig. 1-4). A typology of paddlers is presented along with the typology of rowers, below.

Except aboard working rafts such as in fig. 1-4, each paddler aboard a craft is portrayed in the same position as his fellows. A remarkable exception comes from the funerary temple of King Userkaf (Dynasty V) (fig. 7-35). Here the draftsman has imbued the relief with a powerful sense of rhythm, as if one paddler and one oar is shown in the complete progression of the movement. The stroke begins at the stern, with the blade lifted from the water (1), brought up with effort so strong that the paddlers' arms

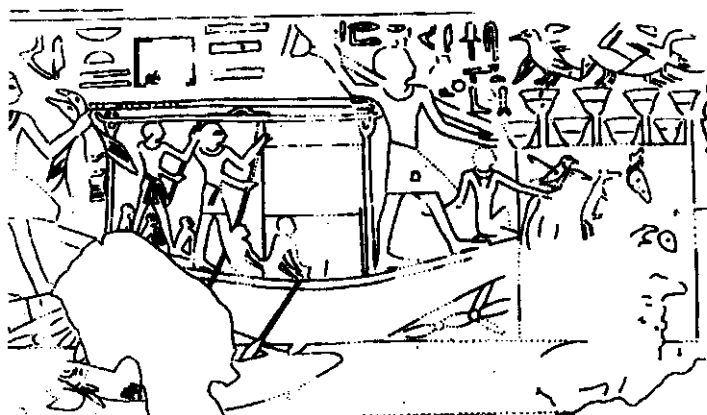


Fig. 7-34. Fowling expedition. Deir el-Gebrawi, Tomb of Isi. Dynasty VI (Pepy II). From Davies 1902.2: pl. XVII.

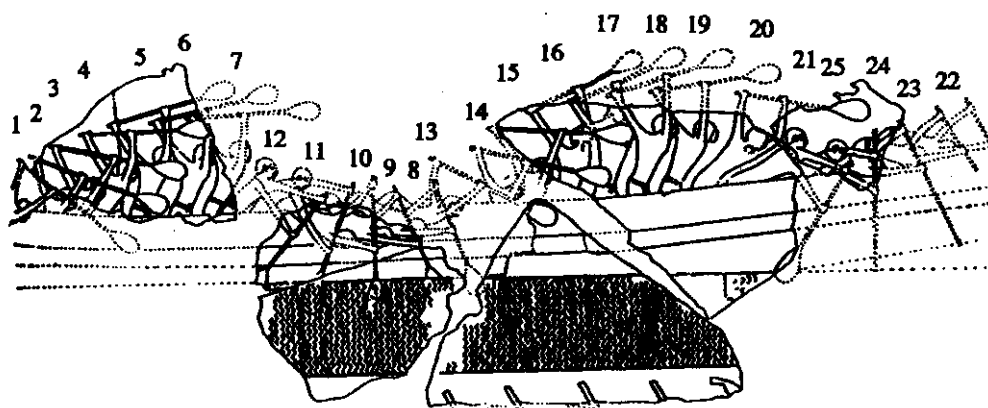


Fig. 7-35. Paddlers. Relief. Saqqara, Temple of Userkaf. Dynasty V (Userkaf). From Smith 1981: 129 fig. 122.

reach over their heads, actually above their backs (1-7). Brought to its height, it plunges down abruptly, and here the stroke is shown progressing backward: the viewer must skip ahead four men (to 8) and follow it back again (to 12). Then, not shown, the paddle clears the water again, and when the rest of the motion appears (13), the blade is already almost clear of the side. The stroke is brought up again (13-20), higher than before, and this time the return to the water is more gradual (21-25). S. Wachsmann has noted that the boat seems unsuited for paddling, so the men may have had to exaggerate their efforts to propel the craft, as in the waterborne procession depicted in the Miniature Frescoes at Thera.<sup>108</sup> Even in its fragmentary state, the power of motion is unmistakable, and it is without parallel in Egyptian art.

This relief has given rise to the suggestion that all the paddlers did not stroke simultaneously: namely, that the paddlers near the stern began to take their stroke after the paddlers near the bow, as a display of skill.<sup>109</sup> L. Casson and D. Jones interpret this scene and W. S. Smith's comments regarding its "progressive movement"<sup>110</sup> far too literally. Were the stroke actually "progressive" (as Casson and Jones write), a paddler would clobber the emerging paddle of the man forward of him. The actual progression of the stroke described above makes a literal interpretation impossible. Assuredly the stroke was taken in unison.

## THE POSITIONS OF ROWERS

The head, body and legs of model rowers are carved as one piece, with the arms pegged to the shoulder or made of linen stiffened with glue. They are most often represented seated on the thwart (fig. 7-36.A), but in Meketre's model *Traveling Boats O and Q*, each oarsman stands in the hold, his outboard leg raised and his foot upon the thwart (fig. 7-36.B). Model rowers rarely lean back (fig. 7-36.C).

Partially hollowed models with accommodation for the rowers' legs are uncommon and infrequently manned.<sup>111</sup> In these models, rowers sit on thwarts that have either been carved in place<sup>112</sup> or added as separate pieces (fig. 7-37).<sup>113</sup>

The more common solid-decked models accommodate the rowers in several ways. There may be no accommodation at all, only the suggestion of one by the amputation of part of the legs of the rowers, who then are perceived as being seated on the deck beams painted onto the surface of the model. In some

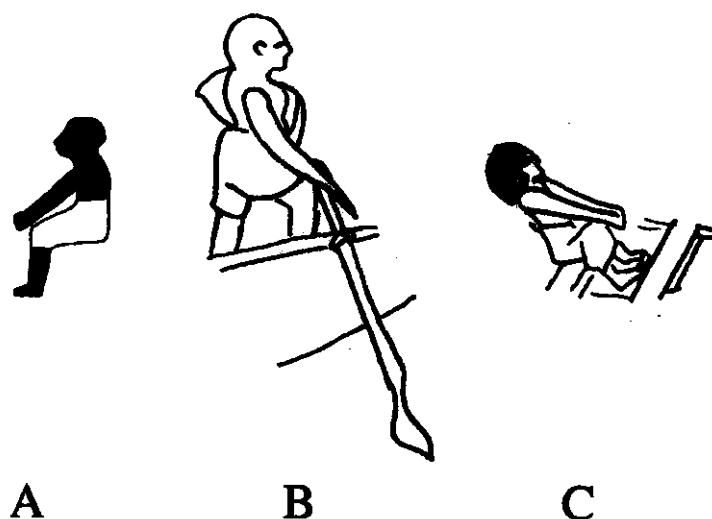


Fig. 7-36. Model rowers from partially hollowed model boats. A: EM 4798. Wood. Meir. Middle Kingdom. From Reisner 1913: 3 fig. 12. B: Meketre's Traveling Boat Q. Wood and linen. Meir. Dynasty XI (Mentuhotep II). After Winlock 1955: pl. 37. C: BM 59011. Wood and linen. Middle Kingdom. After Glanville 1972: 60 fig. 61b.

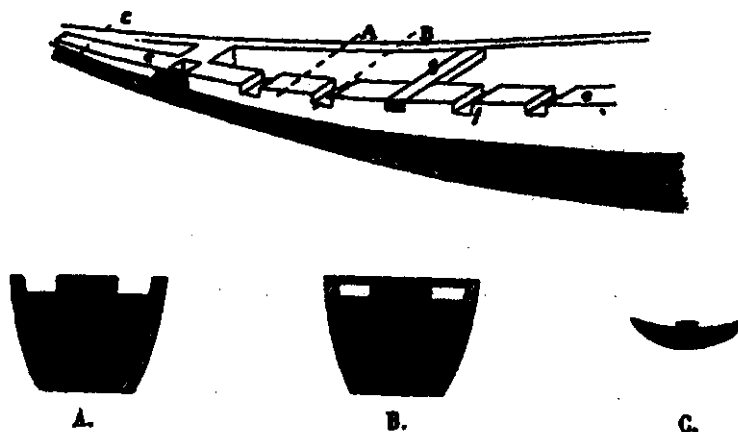


Fig. 7-37. Detail of bow of partially hollowed model boat (EM 4798). Wood. Meir. Middle Kingdom. From Reisner 1913: 2 figs. 5, 6.

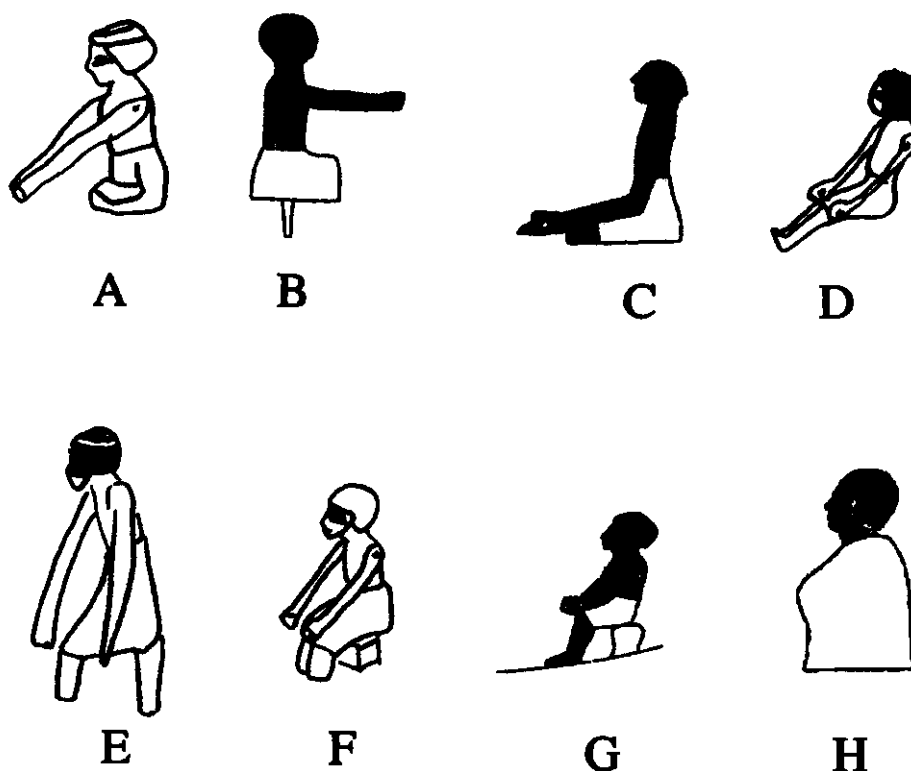


Fig. 7-38. Rowers from solid-decked models. A: Wood. Asyut, Tomb of Shemes. Middle Kingdom. After Leospo and Fozzati 1992: pl. X.7. B: EM 4807. Wood with stiffened linen arms. Luxor? Middle Kingdom. From Reisner 1913: 13 fig. 54. C: EM 4911. Wood. Luxor? First Intermediate Period? From Reisner 1913: 67 fig. 246. C: BM 21805. Wood. Aswan, tomb of Iy-Shema. After Glanville 1972: 2 fig. 2b. E: BM 34274. Wood. Middle Kingdom. After Glanville 1972: 42 fig. 41a. F: BM 25361. Wood and linen. Meir. Middle Kingdom. After Glanville 1972: 22 fig. 20b. G: EM 4913. Wood. Saqqarah. Middle Kingdom. From Reisner 1913: 69 fig. 256. H: EM 4912. Wood. Middle Kingdom. From Reisner 1913: 69 fig. 253.

cases, the rower's legs are carved to the calf or knee (fig. 7-38.B, C), but in other cases he is given a stump, which serves him more as a base than as a suggestion of legs (fig. 7-38.A). Rowers from solid models very seldom show the leg below the knee (fig. 7-38.D).

Models of this sort may have standing rowers. The men's legs are cut off at the thigh, and although the model-maker may have carelessly placed the mortises for the rowers' legs, it is clear that the men are meant to be standing with one leg in the hold, one on a beam (fig. 7-38.E).<sup>114</sup>

More difficult to interpret are those models that provide the rowers with a bench or stool in lieu of the thwart. The man's thighs may be cut off at the level of the deck (fig. 7-38.F) or they may be present to the feet (fig. 7-38.G). The bench itself sits on the deck and takes on several forms: block (fig. 7-38.F), "mushroom" (fig. 7-38.G), and "hook" (fig. 7-31). Although blocks may represent thwarts, that the latter two forms appear in two-dimensional representations (figs. 7-23 through 7-30) argues that above-deck seats did, in fact, exist, and were not merely props devised by the model-makers to allow the placement of seated rowers on a solid-deck model.

Model oarsmen hold the oars by several means. Their hands may be drilled to receive the loom (fig. 7-38.C, D) or the oar may simply rest beneath their hands (fig. 7-36.B, E). Model-makers rarely carved rowers at rest, arms hidden in a cloak (fig. 7-38.H).

Draftsmen utilized several motives to illustrate the positions of the arms of working rowers and paddlers. To facilitate discussion, I have divided these into four major types: In the first type, the figure presents a single shoulder to the viewer; if both arms appear, they are shown close together and the hands remain near together on the loom. In the second type, the figure presents two shoulders with the far arm either crooked upward or straight. In the third type, the figure presents both shoulders with the far arm crooked down. The fourth type comprises figures in miscellaneous positions.

This typology has as its basis the positions of the arms and hands in relation to the body and to the loom; it does not take into account the angle at which the oar is held, the direction or degree of lean, or the attitude of legs (i.e., whether the figure stands or sits). These descriptions encompass both rowers and paddlers; within the types and subtypes, these activities are differentiated by the addition of .rw and .pd to the type numbers, respectively. Usually the far (inboard) hand is held higher on the loom than the near (outboard) hand; however, reversals are known, and these have been classified as appropriate with the designation .rev.

This typology is preliminary and intended to be expandable. Unless the figures are marked otherwise (fig. 7-35), references to specific rowers or paddlers are made starting at the bow (i.e., the foremost rower in each boat is rower 1). The types, with examples (not exhaustive), are:

**I: single shoulder presented (fig. 7-39);**

**I.1 single arm presented, crooked**

.rw figs. 1-13 (rower 1), 7-40 (boat 4), 7-41 (rower 1)

**I.2 arms differentiated below the elbow, crooked**

.rw figs. 7-29, 7-30, 7-40 (boat 1, rower 2; boat 2, rower 1; boat 3; boat 5, rower 1), 7-42

**I.3 arms differentiated at the shoulders or elbow, straight**

.rw figs. 1-13 (rowers 2, 3), 7-6 (fishing boat in upper register), 7-40 (boat 5, rower 2; boat 6, rower 2 = fig. 7-30), 7-43, 7-44 (boats 2, 3)

**II: both shoulders presented (fig. 7-45);**

**II.1 far arm crooked, elbow up; near arm straight or crooked**

.pd fig. 1-4

.rw figs. 6-4.B, 7-46

**II.1.rev near arm crooked, elbow up; far arm straight or crooked**

.pd fig. 1-3 (lowest register, raft on right)

**II.2: far arm straight and level or angled up; near arm straight**

.pd figs. 6-15, 7-35 (paddlers 8-12, 21, 25)

.rw fig. 7-47

**II.3 far arm straight and level; near arm crooked, held before body**

.pd fig. 7-4 (paddlers 1, 2)

.rw figs. 7-48, 7-49

**II.4 both arms straight, angled down**

.pd. fig. 7-4 (paddler 3)

.rw figs. 7-27 (boat on right), 7-40 (boat 1, rower 1; boat 6, rower 1)



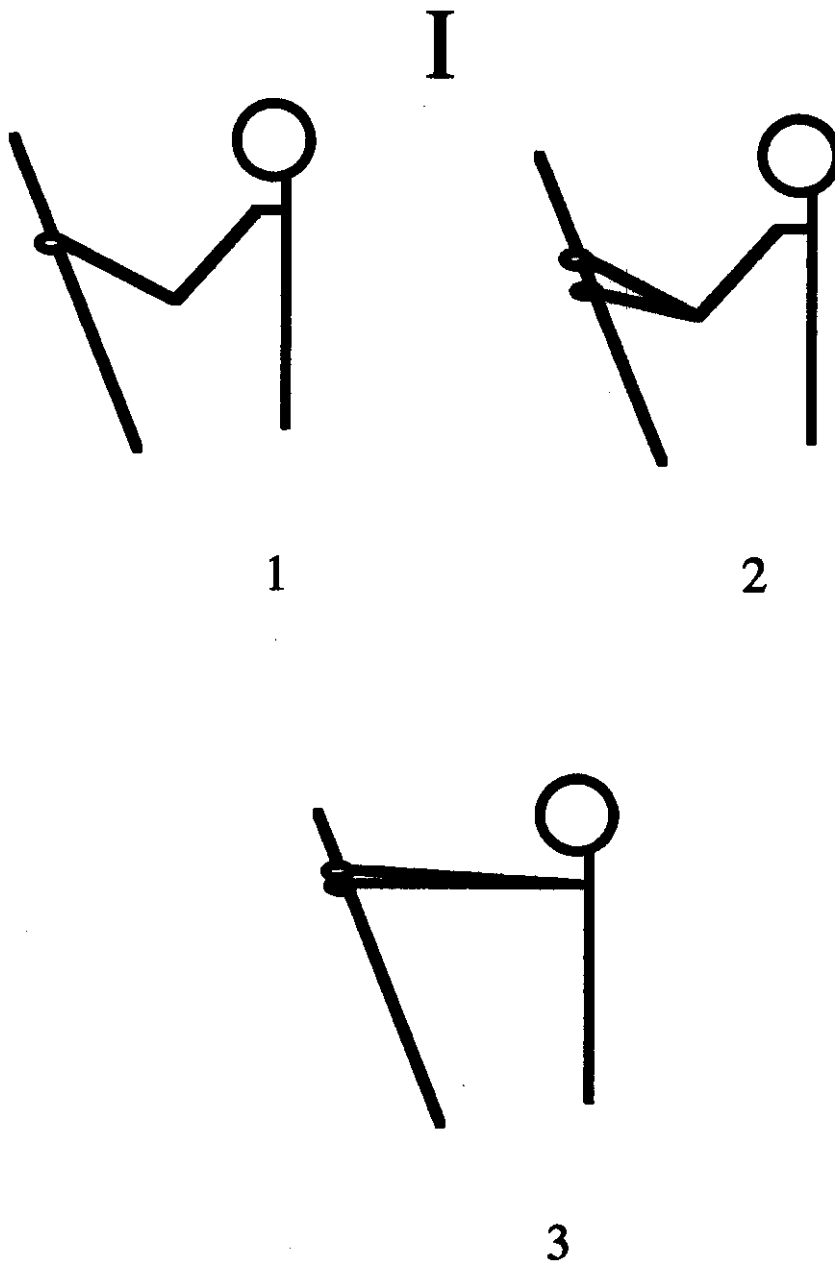


Fig. 7-39. Type I rowers and paddlers.

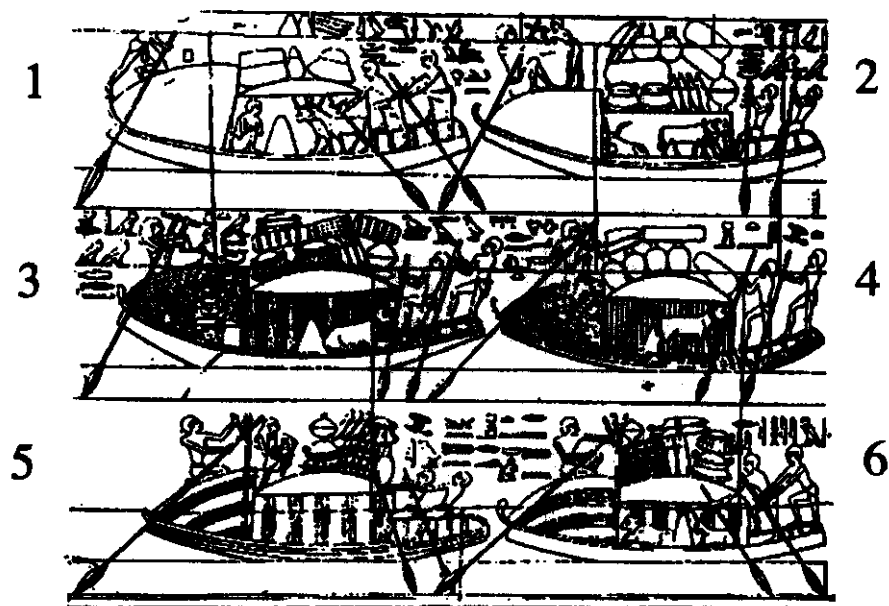


Fig. 7-40. Cargo boats. Relief. Saqqara, Tomb of Ptahhotep. Mid-Late Dynasty V. From Lepsius 1849-59.4: pl. 104b.

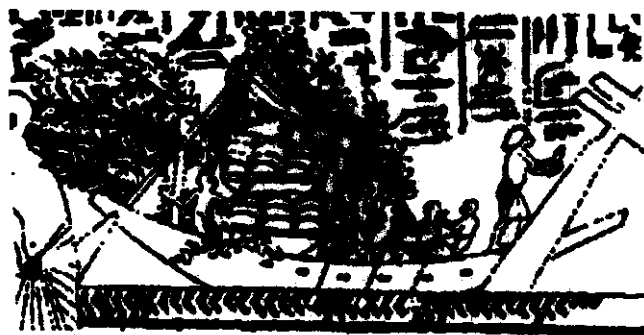


Fig. 7-41. Boat in a funerary procession. Painting. TT 49. Dynasty XVIII (Ay?). From Davies 1933: pl. XXIII.

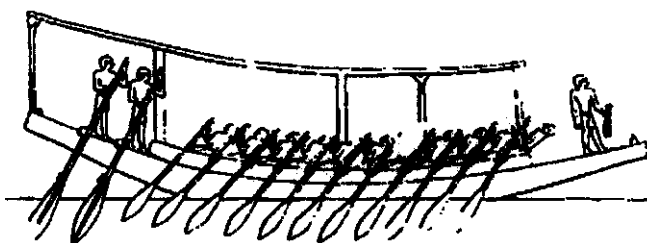


Fig. 7-42. Rowed boat. Relief. Giza, Tomb of Ty. Late Dynasty V. From Épron, Daumas, Goyon and Montet 1939: pl. XLIX.

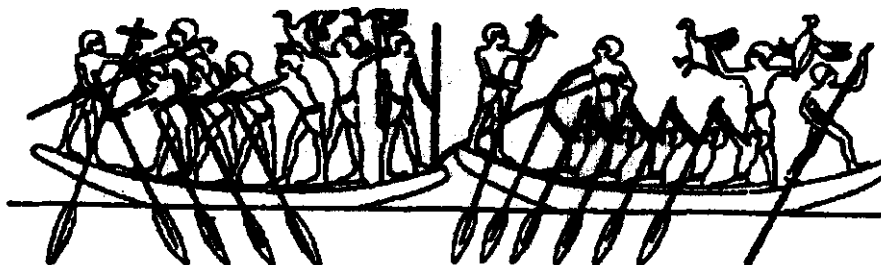
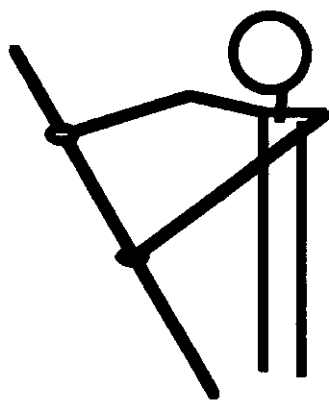


Fig. 7-43. Rowed tow-boats. Relief. Saqqara, Tomb of Ptahhotep. Mid-Late Dynasty V. From Lepsius 1849-59.4: pl. 102b.

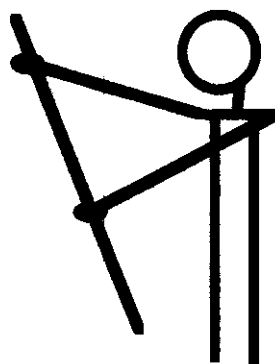


Fig. 7-44. Cargo boats. Relief. Saqqara, Tomb of Nebet and Khenut. Dynasty V (Unas). After Monro 1993: pl. 38.

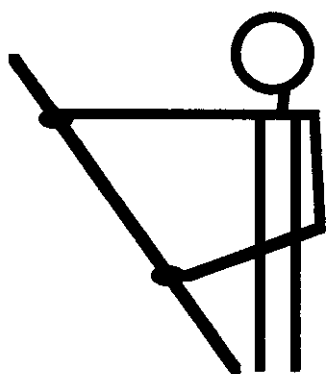
## II



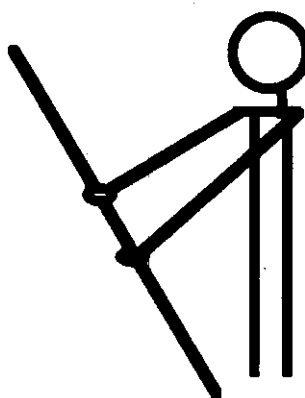
1



2



3



4

Fig. 7-45. Type II rowers and paddlers.

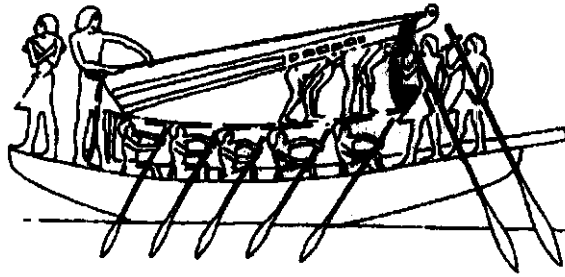


Fig. 7-46. Rowed boat with mast being stepped or unstepped. Relief. Saqqara, Tomb of Mereruka. Dynasty VI. From Bjorn Landström, © 1970, *Ships of the Pharaohs*, p. 47 fig. 125.

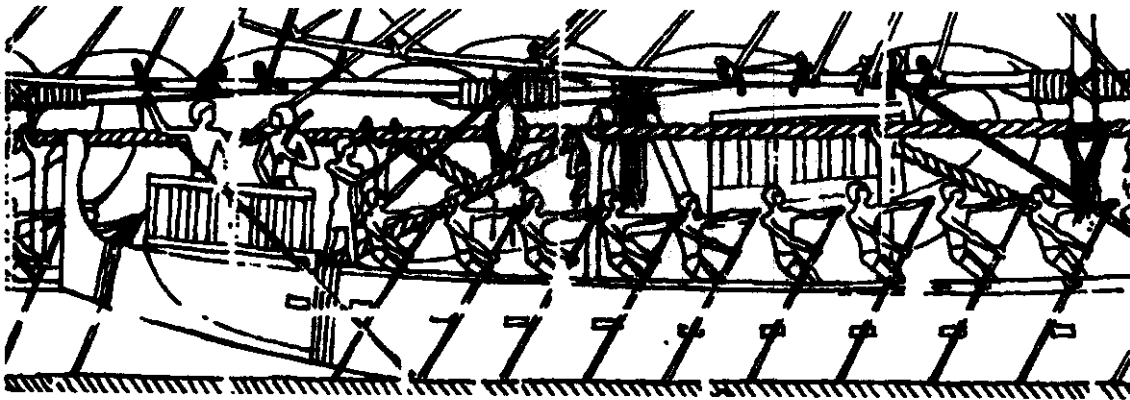


Fig. 7-47. Rowed boats of the Punt expedition. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut). Detail, Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 123 fig. 372.

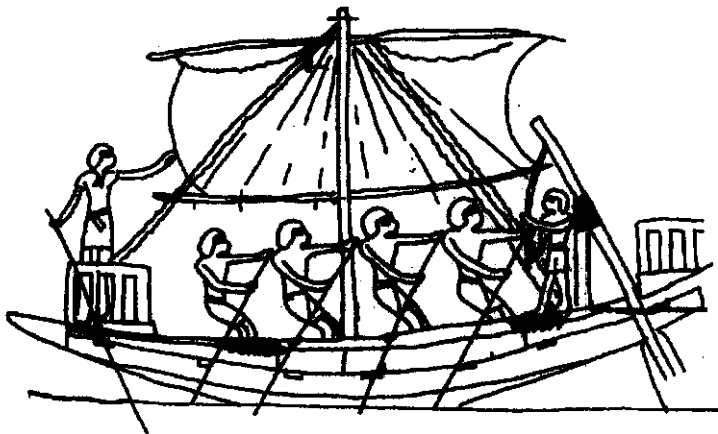


Fig. 7-48. Rowed tow-boat in a funerary procession. Painting. TT 96. Dynasty XVIII (Amenhotep II). After Wreszinski 1988.1: pl. 308.

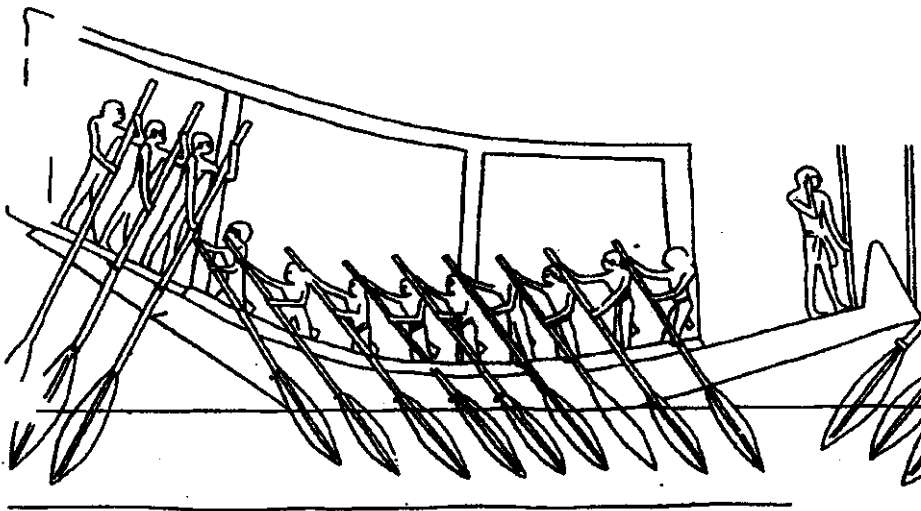


Fig. 7-49. Rowed boat. Relief. Saqqara, Tomb of Kagemmont. Dynasty V. From Morgensen 1921: 17 fig. 10.

= fig. 7-30)

**III: both shoulders presented; far arm crooked (fig. 7-50);**

**III.1 far elbow between body and loom; near arm crooked, hand held before body**

.pd figs. 1-2 (upper register), 1-7, 7-25, 7-51

.rw figs. 6-6, 6-25, 7-19, 7-23, 7-44 (boat 1, rower 2), 7-52

**III.1.rev near elbow between body and loom; far arm crooked, hand held before body**

.pd fig. 7-1

.rw fig. 7-53

**III.2: far elbow beyond loom, near arm crooked, hand held before body**

.pd fig. 5-2

.rw fig. 6-18, 6-26, 7-44 (boat 1, rower 1), 7-54, 7-55

**III.3 far elbow beyond loom, near arm crooked, hand held even with or behind body**

.pd fig. 1-2 (bottom register)

.rw figs. 1-10, 6-63, 6-66

**III.4 far elbow beyond loom; near arm straight, held before body**

.pd fig. 7-2

**III.5 far elbow between body and loom; near arm straight**

.rw fig. 7-24

**III.6 far elbow beyond loom, forearm held at chest; near arm held behind body**

.rw fig. 7-56

**IV: Miscellaneous positions (fig. 7-57);**

**IV.1 both shoulders presented, both arms crooked, hands held before body, close together on loom**

.rw fig. 1-18

**IV.2 both shoulders presented, both arms crooked outward; hands held close together**

.rw figs. 6-35, 7-27 (boat on left), 7-28

**IV.3 both shoulders presented, far arm crooked, elbow beyond loom; near arm crooked, held before body; hands close together**

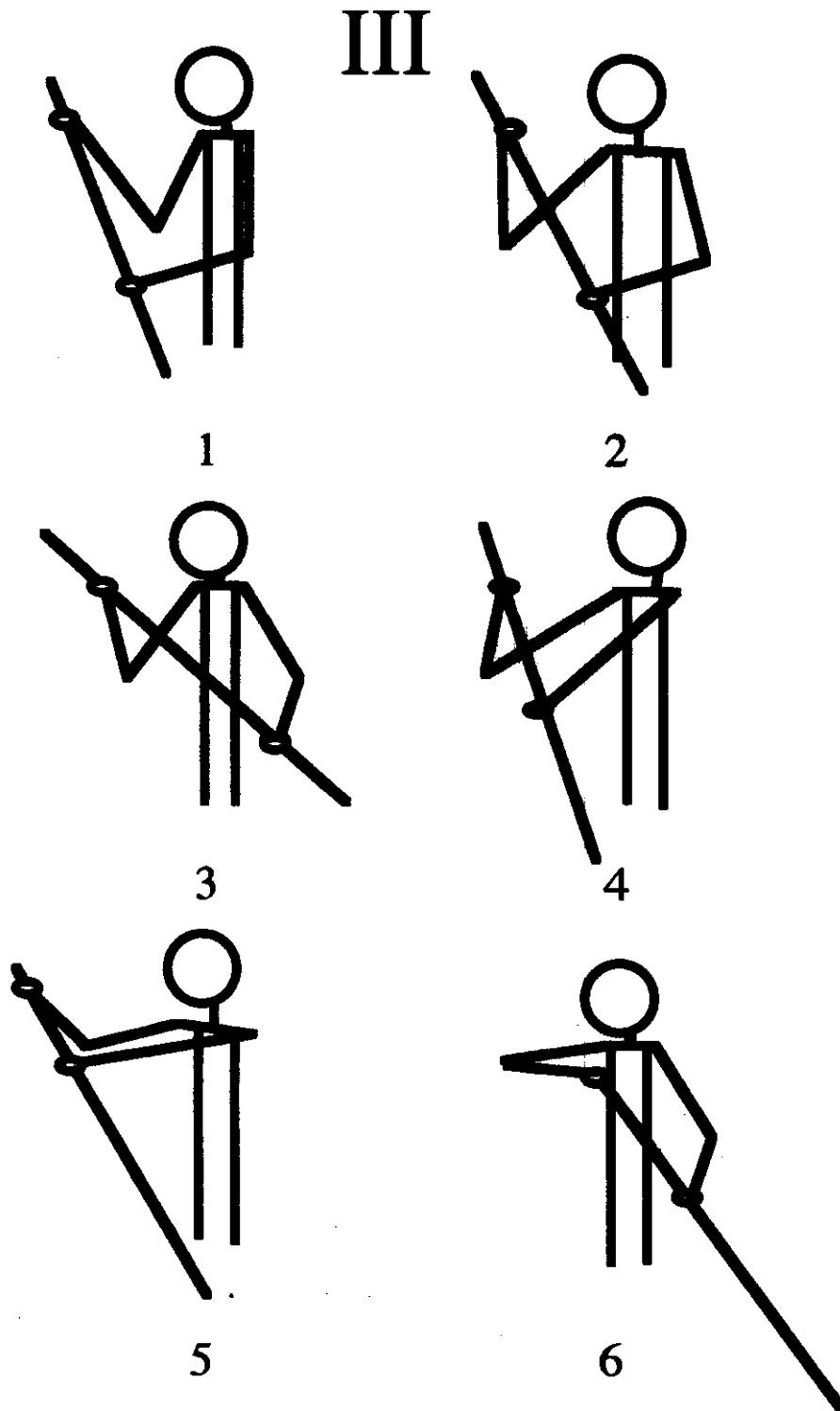


Fig. 7-50. Type III rowers and paddlers.



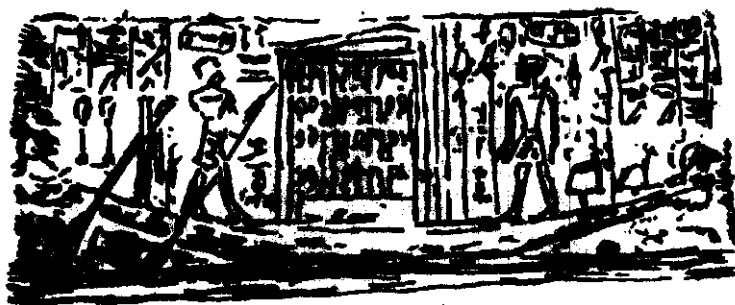


Fig. 7-51. Thutmose III paddling the sacred barque of Amon-Ra, Hatshepsut officiating at the bow. Relief. Karnak. Dynasty XVIII (Hatshepsut). After Lacau and Chevrier 1977: pl. 9 no. 104.

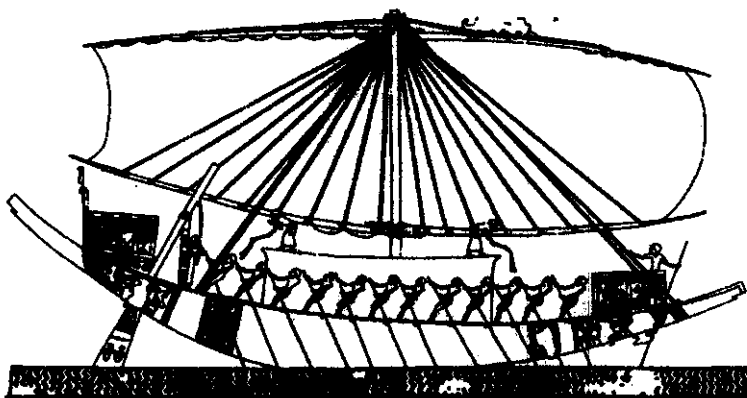


Fig. 7-52. Ship under oar and sail. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. LXVIII.

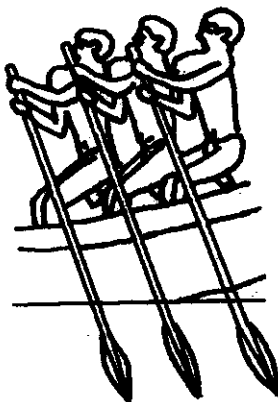


Fig. 7-53. Rowers. Relief. Saqqara, Tomb of Mereruka. Dynasty VI. After Duell 1938.2: pl. 130.



Fig. 7-54. Funerary tow-boat. Painting. TT 49. Dynasty XVIII (Ay). From Davies 1933: pl. XXII.

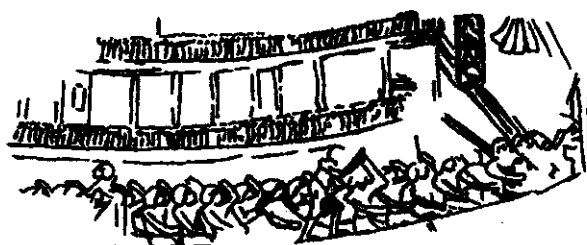
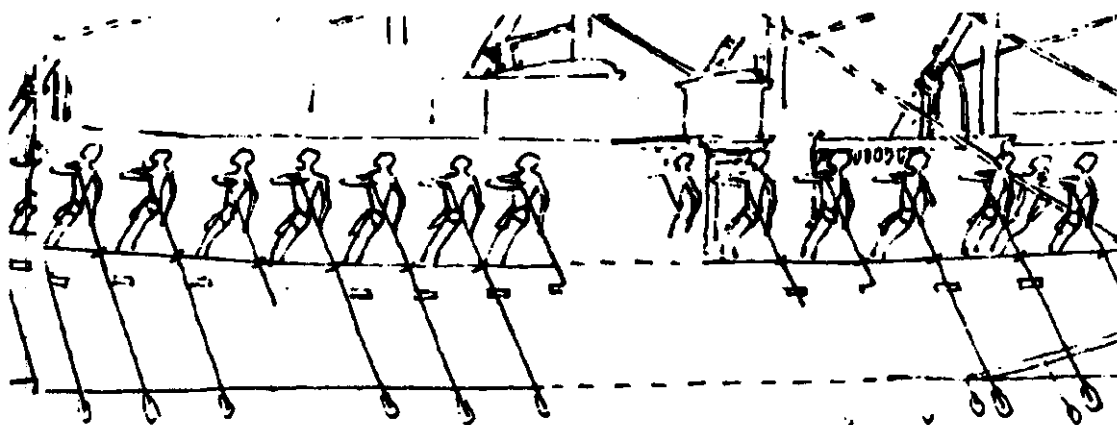


Fig. 7-55. Rowed boat carrying Syrian captive. Relief. Karnak, Great Temple of Amon. Dynasty XVIII (Amenhotep II). After Abdul-Kader 1959: pl. I.



7-56. Oared tow-boat. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut).  
Detail, Bjorn Landström, © 1970, *Ships of the Pharaohs*, p. 131 fig. 383.

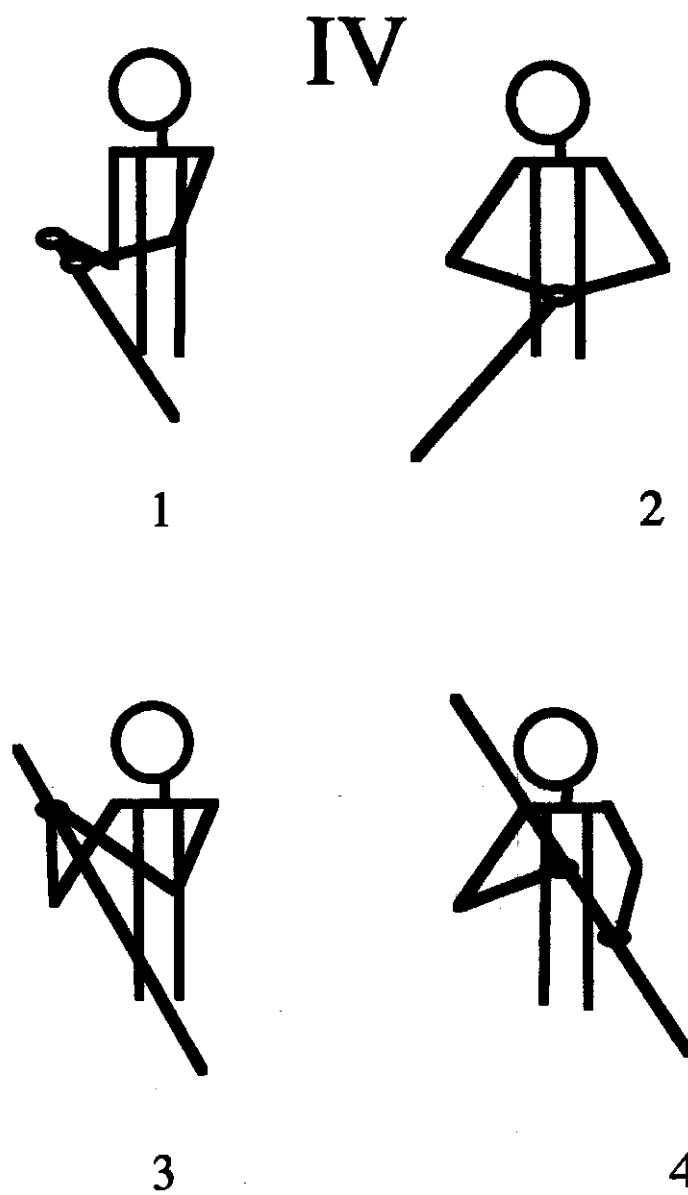


Fig. 7-57. Type IV rowers and paddlers.

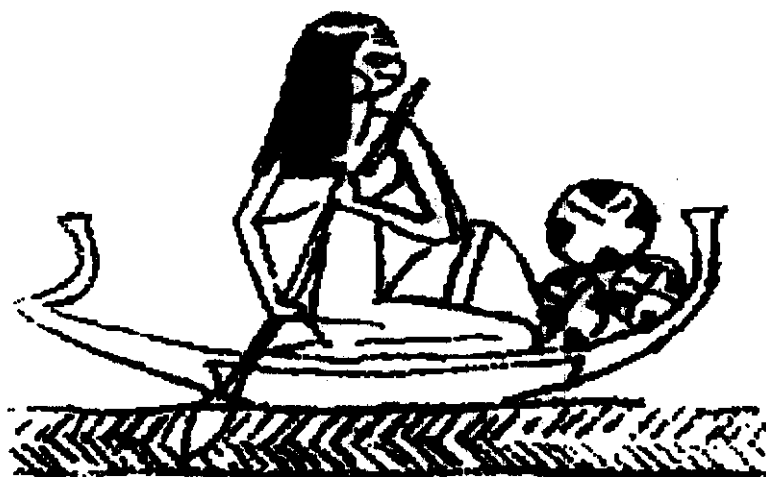


Fig. 7-58. Woman paddling in the netherworld. Painting on papyrus. Dynasty XXI. After Schneider and Raven 1981: 120 no. 118.

.rw fig. 7-40 (boat 2, rower 2)

- IV.4 both shoulders presented, far arm crooked, elbow beyond loom, hand held even with body; near arm crooked, held behind body

.pd fig. 7-58

- IV.5 both arms straight, held over head

.pd fig. 7-35 (paddlers 1-7, 13-21)

Leaving aside the anomalous types (IV), all of the other major types (if not every sub-type) are present in art from the Old through New Kingdoms.

Paddlers exhibit less variation than rowers. Leaving aside the miscellanies (IV) and reversals, of the thirteen sub-types described and identified here, only eight apply to paddlers (II.1, II.2, II.3, II.4, III.1, III.2, III.3). One type belongs exclusively to paddlers (III.4), but five are exclusive to rowers (I.1, I.2, I.3, III.5, III.6). Paddlers and rowers of the shared types (II.1, II.2, II.3, III.1, III.2, III.3) may, in fragmented scenes, be indistinguishable from each other, unless the bow or stern of a vessel is identifiable (in which case, of course, paddlers face forward, rowers astern), the shape of the blade or evidence of lanyard or grommet is preserved, or it can be determined that the figures are crouched on deck, a position exclusive to paddlers.

Particularly during the Old Kingdom, several types may appear in the same scene. In fig. 1-13, the draftsman has displayed both arms of some of the rowers (Type I.3.rw), but to the rower at the bow, he gives only one (Type I.1.rw). Similarly, in boat 6 of fig. 7-40 (detail, fig. 6-30), the arms of one rower differentiate at the elbows (Type I.2.rw), while those of another are distinct for their entire lengths (Type I.3.rw). Some Old Kingdom draftsmen seem to have taken care to vary their figures, so that each might seem distinct from the others, rather than repeating the same figure over and over. Aboard the six rowed boats in fig. 7-40, twelve rowers exhibit five different positions (I.1, I.2, I.3, II.4, IV.3). The most remarkable example has already been discussed: in fig. 7-35, Type IV.5.pd transforms into Type II.4.pd, each figure representing a different phase of the paddling stroke.

The act of rowing consists of a sequence of four moves: catch, drive, finish and recovery.<sup>115</sup> In the catch (fig. 7-59.A), the blade of the oar enters the water. The rower raises his hands, which are held far from his chest, lowering the blade in preparation for the drive. The drive (fig. 7-59.B) is the motion that actually propels the boat. The rower pulls the oar toward himself, and when the oar reaches the finish of

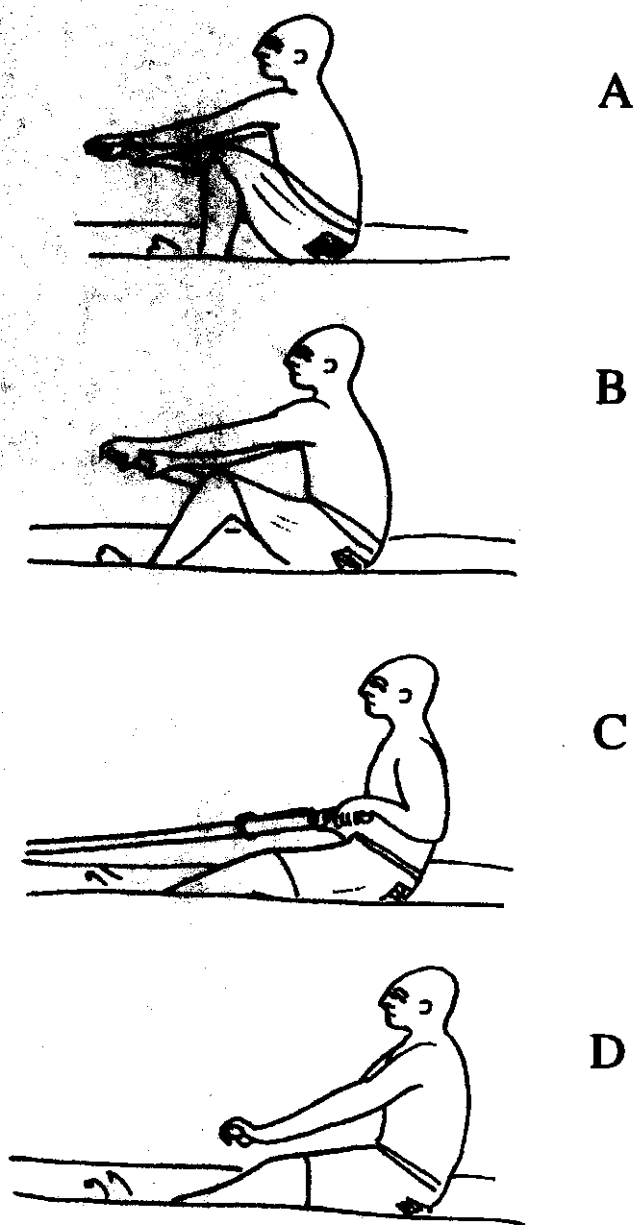


Fig. 7-59. Phases of the rowing stroke. A: Catch. B: Drive. C: Finish. D: Recovery. After Chubruck 1988: 53-56.

the stroke (fig. 7-59.C), the oarsman presses down on the loom, raising the blade from the water. With the oar thus raised, the rower throws his hands away from his body in the recovery (fig. 7-59.D), which becomes, as the oar submerges again, the next catch. Boreux describes three of these phases (*temps*)<sup>116</sup>: *l'attaque* (catch); *la passe dans l'eau* (drive); and *le dégagé* (finish).

Oarsmen reaching forward, usually bent at the waist, are said to be in the catch. Examples of the catch from the Old Kingdom can be unambiguous: an oarsman, his hands close together at the loom, stands to lean forward with his arms outstretched (figs. 7-40, boats 1, 6; 1-13; 7-44, boat 3; 7-43, boat on right). Occasionally the catch is taken from a seated position (fig. 7-6, boat in upper register; cf. the positions of the rowers' legs with fig. 7-59.A). The arms of these rowers usually assume the positions of Type I.1.rw, I.2.rw or I.3.rw. The draftsman may exaggerate the length of the arms to emphasize the reach and the effort that the oarsman puts into it (fig. 7-40, boats 1, 6).

Not all representations of the catch are unambiguous. Although the angle of the oars in fig. 7-49 indicates the catch, the rowers' near arms are crooked (Type II.3.rw). Similarly, in fig. 7-22, the far arm is crooked (Type III.5), although again the angle of the oars makes it clear that the catch is, or has just been, taken.

Boreux remarks that it is difficult to distinguish between the remaining two motions, the drive and the finish.<sup>117</sup> To make the drive, the oarsman brings his hands in toward his chest and leans back (e.g., fig. 7-40 boat 2). The Old Kingdom draftsman did not always crook the arms of his rowers as they made the drive. In fig. 7-40 (boat 5) and fig. 7-44 (boats 2,4), a backward leaning of the body, the steepening angle of the oars, and the upward angle of the arms serves to indicate the drive.

Depictions of the finish are more problematic. The essential motion of this phase is the pressing down on the loom, which raises the blade from the water. Although the oars in the hands of model rowers may extend at a ninety degree angle from the sheer or bulwark (cf. the positions of the hands in fig. 7-38), Egyptian draftsmen almost never showed plied oars out of the water (for exceptions, see figs. 7-27, 7-28),<sup>118</sup> thus the finish *per se* and recovery do not appear, although Boreux identified illustrations of the finish (fig. 7-42).<sup>119</sup> In theory, representations of the finish about to be taken are distinguishable from the middle stages of the drive by the extreme backward lean of the rowers. In the finish, the hands are quite close to the body; in representations, draftsmen may crook the arms such that the elbows are tight against the body, variations of Type I.2.rw (fig. 7-42) and Type III.2 (fig. 7-18), or, with arms crooked less



severely, as in fig. 7-60 (Type I.2.rw), in which the lean of the body and angle of the oar are the salient indication of the finish. The reliance upon the lean is evident in figs. 7-41 (boat on right) and fig. 7-44 (boat 2), in which the arms remain completely straight. Type IV.2 (figs. 7-27, 7-28), with both arms crooked and hands together at the waist, is an attempt by the draftsman to adapt the reality of the finish to his artistic conventions.

The distinction of the three phases of rowing did not remain popular. After the Old Kingdom, generally only the angle of the oars serves to differentiate between catch and drive, and drive and finish; it might be more accurate to describe the majority of post Old Kingdom examples as "early drive," "middle drive" and "late drive." Even some of those examples in which rowers with straight arms angle the butt of their looms toward the stern, suggestive of the catch, remain ambiguous in that their rowers do not lean forward, but may in fact lean backward, re-seating themselves (fig. 7-61).

By the New Kingdom, Types II and III dominated the draftsman's repertoire. In my survey, I have located only once Type I.1.rw from this period (fig. 7-41). It appears aboard a boat carrying supplies in a funerary procession. Having no mourners aboard, it is the most purely utilitarian boat in the scene, and is considerably smaller than the other craft. In it the draftsman felt free to revive the old Type I.1.rw. Given that contemporary figures engaged in other activities exhibit postures analogous to Type I,<sup>120</sup> it is difficult to explain why New Kingdom draftsmen avoided it for rowers.

A common element running from the Old through New Kingdoms is the alternating standing and seated positions of rowers. In the Old Kingdom, the catch is almost always taken from a standing position, with legs spread apart (figs. 1-13; 7-44, boat 3; 7-43; 7-62, boat 10) or one foot braced on a rail (figs. 7-22; 7-40, boats 1, 6) or thwart (fig. 7-63), the last known also from Middle Kingdom models (figs. 6.36.A, 7-38.E).<sup>121</sup> In the drive, the rower is shown either standing (fig. 7-44, boats 1, 2; sometimes with one foot still raised: fig. 6-25), or seated (figs. 6-18, 6-26, 7-61; 7-40, boats 2-5) in the drive. In many examples of the finish, the rowers are seated on their benches (figs. 7-18?, 7-43). This is not universally true: there are rowers standing in the finish (fig. 7-44 boat 2). Although the phases of the stroke are not clearly delineated, standing and seated rowers appear in the Middle and New Kingdoms as well.<sup>122</sup> Although in New Kingdom examples the sheerstrake commonly obscures the rowers' hips, it is evident that in some scenes of this period rowers are shown both seated (figs. 6-63, 6-64, 7-54, 7-55) and standing (figs. 7-47, 7-48, 7-52).

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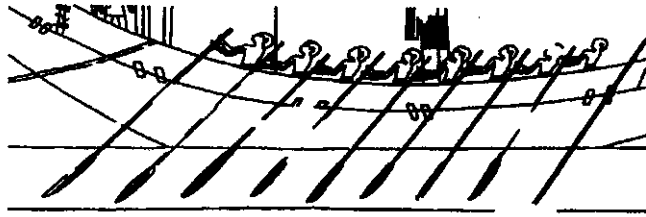


Fig. 7-60. Rowed vessel. Drawing. Meir, Tomb of Pepiankh called Heny the Black. Dynasty VI. From Blackman and Apted 1914-53.6: pl. XLII.

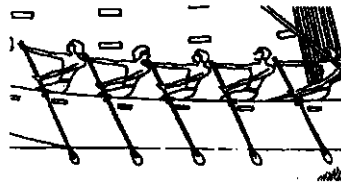


Fig. 7-61. Rowed tow-boat. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut). Detail, Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 129 fig. 381.

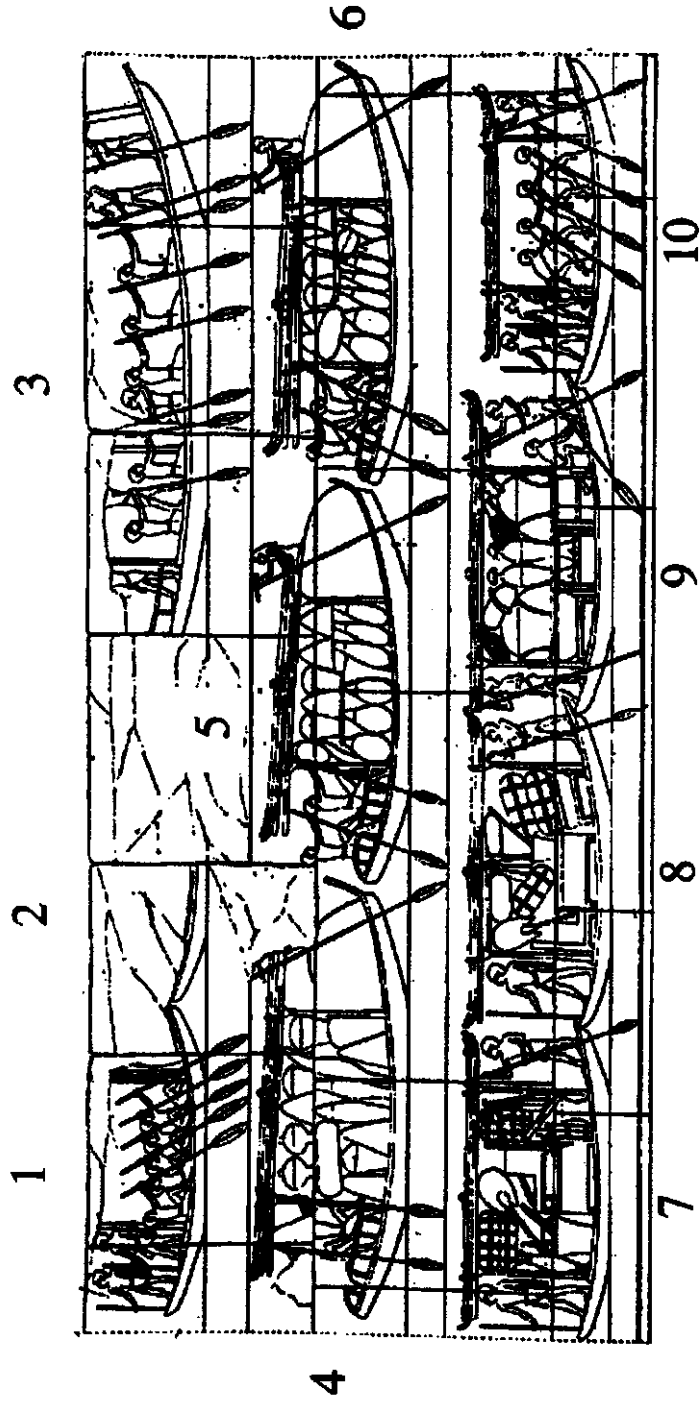


Fig. 7-62. Cargo and traveling boats. Relief. Saqqara, Tomb of Ptahhotep. Mid-Late Dynasty V. From Lepsius 1849-59.4: pl. 103b.

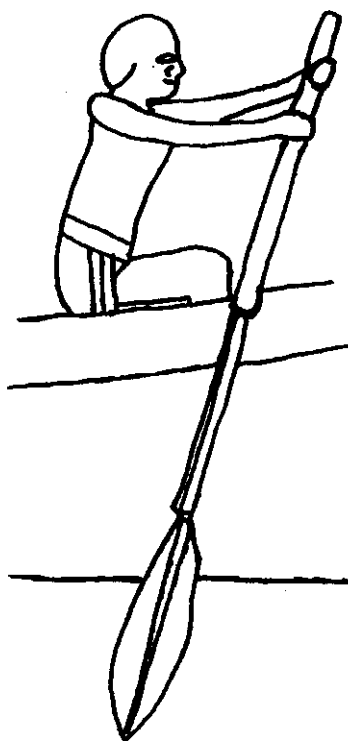


Fig. 7-63. Rower. Relief. Tomb of Akhethotep. Dynasty V. After Boreux 1925: pl. I.

Certain kinds of small cargo boats of the Old Kingdom have two (likely representing four)<sup>123</sup> rowers at the bow,<sup>124</sup> like Indian *holas* and dinghis.<sup>125</sup> A station at the bow is also advantageous in a headwind,<sup>126</sup> a condition often encountered while traveling downstream on the Nile. These rowers do not sit on the deck, but on a rail that runs from the cabin or cargo area to the bow. They assume three positions: seated, with both legs on the deck or planksheer (figs. 7-40, boats 2, 5, fig. 6-44, boat 4); seated, with one foot on the rail (fig. 7-62, boats 4, 5, 6); standing, both feet on the deck (fig. 7-44, boats 1, 2, 3); and standing with one foot upon the rail (fig. 7-40, boats 1, 3, 4, 6). This rail, on which the rower probably plied the oar,<sup>127</sup> seems to have been inboard of the planksheer, rather than fitted to it, as the rowers straddle it, having one foot on the planksheer itself. Sometimes the oar pivots on the rail at the point of the rower's knee (fig. 7-61, especially boat 5). In a relief of a probably larger boat with a similar kind of rail, the far leg is placed on the rail (fig. 7-22). Yet other representations have the rowers seated completely inboard, implying the existence of a thwart between the port and starboard rail (fig. 7-40, boats 2, 5). These two-dimensional representations do not provide us with sufficient reliable detail to interpret accurately the position of the rowers.

From the Old through New Kingdoms, explicit juxtapositions of seated and standing rowers (figs. 7-27, 7-29, 7-31.D, E, 7-40, 7-43, 7-44) suggest that at least some of the time the rower took the catch from a standing position, then threw himself back upon his bench to effect the drive.<sup>128</sup> This technique would have permitted the rower to extend his reach, resulting in a more powerful drive. Some examples are clearly exaggerated, such as fig. 7-43, in which rowers take the catch while standing on deck and make the drive while seated on thwarts.

Assman and Boreux argue that during the Old Kingdom the Egyptians rowed with their oars held nearly parallel to the side of the boat, rather than perpendicular.<sup>129</sup> The stroke was effected by working the oar in such a matter that, in the drive, the oar blade was perpendicular to the side of the vessel, and in the finish/recovery, it was held parallel (feathered), to minimize resistance. Jarrett-Bell saw this style of rowing in Hatshepsut's reliefs at Deir el-Bahri;<sup>130</sup> his reconstruction of the stroke, based on four positions from three different scenes in the temple, appears in fig. 7-64. According to this reconstruction, in the first three phases the rowers are Type II.2, taking the catch seated and rising to stand for the drive. The end of the drive is taken by a rower of Type III.6, a most unusual position not encountered elsewhere.

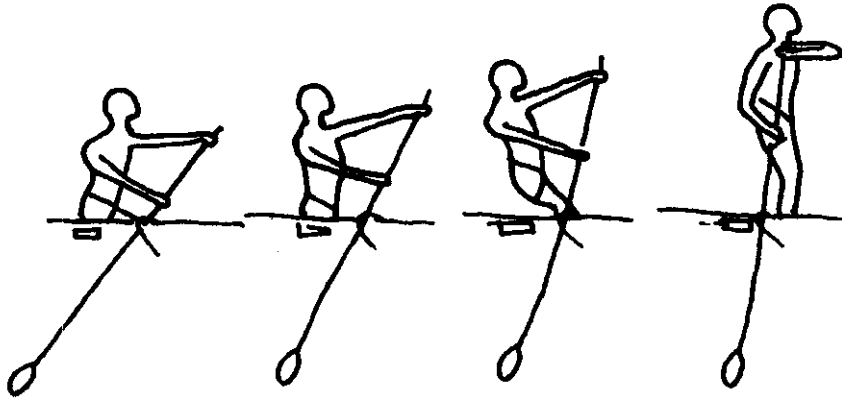


Fig. 7-64. Reconstruction of the rowers' stroke from Deir el-Bahri, Temple of Hatshepsut, proposed by C. D. Jarrett-Bell. After Jarrett-Bell 1930: 12 fig. 1.

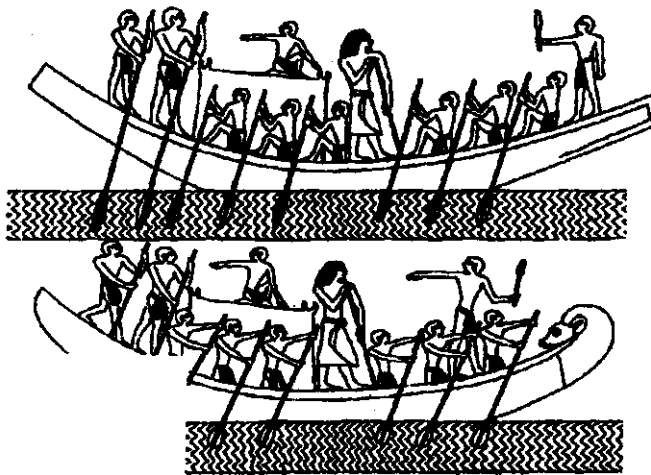


Fig. 7-65. Rowed and paddled boats. Relief. Giza, Tomb of Nisutnefer. Dynasty V. After Junker 1929-43.3: 167 fig. 29.

Such a stroke would reduce the amount of inboard room taken by the rowers, maximizing deck space available for cargo.<sup>131</sup> However, this would not be a concern aboard the tow-boats, and Jarrett-Bell is certainly mistaken in his statement that it was used aboard Greek triremes.<sup>132</sup> It is now generally accepted that the appearance of constant immersion is one of artistic convention only.<sup>133</sup>

## PULLING MASTERS AND STROKE OARS

Who is directing the oarsmen in their stroke is seldom evident in two-dimensional representations, and never in models. During the Old Kingdom, a man amidships gestures widely with a baton in his hand, directing rowers or paddlers (fig. 7-65).<sup>134</sup> Later, rowers themselves turn about to call forward (figs. 6-63, 7-10, 7-23, 7-28, 7-41, 7-47, 7-61), but whether these men actively engage in setting the stroke cannot be ascertained.

Pairs of New Kingdom pulling masters divide their duties forward and aft (figs. 7-52, 7-55), but this may represent a starboard-port division. Whip in hand, the pulling master stands on the roof of the cabin (figs. 1-10, 1-11, 7-52), bending over to address the men below, or he walks beside them (figs. 7-47, 7-55). His whip functioned as a badge of office, to be applied to the backs of unruly crewmen as necessary (cf. fig. 3-3.C),<sup>135</sup> rather than as an instrument for setting the stroke. A didactic text describes the lot of the sailor as that of a man who is "worn out, the oar in his hand, the lash upon his back."<sup>136</sup>

The pulling master relayed his orders verbally, indicated by a hand raised to his mouth and similar gestures. There is little evidence to suggest that any form of instrumental music was used to regulate the stroke of the oars. A trumpeter sits on the cabin of a New Kingdom boat participating in a festival procession.<sup>137</sup> Although in nautical scenes musicians perform for the amusement of the passengers,<sup>138</sup> rowers may have used songs to keep time, as they did in recent times.<sup>139</sup>

In the story of King Sneferu and the female rowers (see chapter IX), one woman is referred to as *styt*,<sup>140</sup> the stroke oar. This same title is applied to Amenhotep II.<sup>141</sup> It seems otherwise unattested.



## THE ABSENCE OF ROWING OR PADDLING GEAR, OR THEIR CREW

Oars and paddles are all but inseparable from rowers and paddlers. Therefore, unlike equipment that can stand unmanned, such as steering-oars and rigging, they are seldom present if the boats are unmanned (e.g., fig. 4-10). Oars are frequently missing from manned models, lost on account of their relative delicacy and small size. Of course, on unmanned models there is little place for the oars, and they are omitted with their users.

Grommets and lanyards are commonly absent in two-dimensional representations (see below) and in models of vessels equipped for sailing, even though such vessels in life would be expected to have been rowed as well. A draftsman might include them on one boat in a scene, but omit them on another.<sup>142</sup>

Sacred and mythical boats frequently appear without oars or sail (figs. 4-3, 4-6, 4-16, 6-22). As magical and divine craft, they needed no mundane means of propulsion.

## NOTES

- <sup>1</sup> Epigraphic Survey 1979: 6 (Herihor; Dynasty XXI).
- <sup>2</sup> Cf. the list in Muhammed 1966: 65.
- <sup>3</sup> Lichtheim 1973-80.2: 41.
- <sup>4</sup> Breasted 1906.2: 319 §809.42-43.
- <sup>5</sup> Der Manuelian 1987: 163.
- <sup>6</sup> PT 1171 (Abubakr and Mustafa 1971: 14).
- <sup>7</sup> E.g., CT 26 (Faulkner 1973-78.1: 16), CT 623 (Faulkner 1973-78.2: 206); CT 753 (Faulkner 1973-78.2: 287); CT 464 (Faulkner 1973-78.2: 90); CT 467 (Faulkner 1973-78.2: 95); CT 752 (Faulkner 1973-78.3: 287); CT 789 (Faulkner 1973-78.3: 1); BD 15A1 (Allen 1974: 17); BD 110 (Allen 1974: 87).
- <sup>8</sup> CT 151 (Faulkner 1973-78.1: 131 [II.258-59]; CT 752, (Faulkner 1973-78.3: 287 [VI.381]).
- <sup>9</sup> CT 159 (Faulkner 1973-78.1: 138 [II.66]), BD 109 (Allen 1984: 86), BD 149 (Allen 1974: 142).
- <sup>10</sup> CT 161 (Faulkner 1973-78.1: 139).
- <sup>11</sup> Vinson 1996: 205-06, 212.
- <sup>12</sup> Osiris (Orion): BD 69 (Allen 1974: 63); Isis: CT 181 de Buck III 75, Faulkner 1973-78.1: 152 [III.75]), cf. CT 187 (Faulkner 1973-78.1: 153 [III.77]); Ra: CT 358 (Faulkner 1973-78.2: 358 [V.10]), CT 359 (Faulkner 1973-78.2: 3 [V.12]), CT 360 (Faulkner 1973-78.2: 4 [V.14], *ibid.* 4 [V.20]); CT 839 (Faulkner 1973-78.3: 27-28 [VII.41-44]), CT 866 (Faulkner 1973-78.3: 42 [VII.71]), BD 15 (Allen 1974: 14), BD 63 (Allen 1974: 56), BD 108 (Allen 1974: 85), BD 149 (Allen 1974: 142); Horus: CT 775 (Faulkner 1973-78.2: 303 [VI.409]); Four Sons of Horus: CT 46 (Faulkner 1973-78.2: 93 [V.357.XVII]); Offspring of Shu: CT 429 (Faulkner 1973-78.2: 72 [V.276]); personification of Upper Egypt: BD 183 (Allen 1974: 201).
- <sup>13</sup> Faulkner 1973-78.1: 256 (IV.177).

- 14 CT 753 (Faulkner 1973-78.2: 287 [VI.382]).
- 15 Faulkner 1973-78.2: 160 (VI.139).
- 16 Arnold 1974-81.2: pls 22-23. For ritual paddling, see Wachsmann 1998: 106-11.
- 17 CT 344 (Faulkner 1973-78.1: 279 [IV.367]); CT 407 (Faulkner 1973-78.2: 58 [V.213]); CT 408 (Faulkner 1973-78.2: 60 [V.225]); CT 818 (Faulkner 1973-78.3: 9 [VII.17]).
- 18 CT 358 (Faulkner 1973-78.2: 2 [V.10]); CT 359 (Faulkner 1973-78.2: 3 [V.12]); CT 360 (Faulkner 1973-78.2: 3-4 [V.14-15, 20]); BD 63 (Allen 1974: 56).
- 19 CT 395 (Faulkner 1973-78.2: 20, 21 n. 21 [V.71]).
- 20 BD 58 (Allen 1974: 54), BD 122 (*ibid.* 95).
- 21 CT 395 (Faulkner 1973-78.2: 21 n. 21 [V.71]).
- 22 CT 479 (Faulkner 1973-78.2: 122 [VI.39]).
- 23 CT 398 (Faulkner 1973-78.2: 35 [V.146]).
- 24 BD 99 (Allen 1974: 80).
- 25 CT 404 (Faulkner 1973-78.2: 49 [V.191]); CT 405 (Faulkner 1973-78.2: 55 [V.204]).
- 26 CT 473 (Faulkner 1973-78.2: 109 [VI.10]).
- 27 CT 398 (Faulkner 1973-78.2: 51 n. 59 [V.146]).
- 28 CT 400 (Faulkner 1973-78.2: 43 [V.170]).
- 29 CT 396 (Faulkner 1973-78.2: 23 [V.74]).
- 30 CT 473 (Faulkner 1973-78.2: 109, 34 n. 111 [VI.10]).
- 31 Jones 1988: 197-198 (III.3).

- 32 Jones 1988: 197 (IV.2).
- 33 Jones 1988: 200 (IV.11).
- 34 Jones 1988: 202 (IV.17).
- 35 Jones 1988: 195 (III.190).
- 36 Jones 1988: 152 (III.5).
- 37 Jones 1988: 180 (III.119).
- 38 Jones 1988: 196 (III.193).
- 39 Jones 1988: 181 (III.125).
- 40 Jones 1988: 126 (I.e.15).
- 41 Jones 1988: 126 (I.e.17).
- 42 Jones 1988: 96-97 (I.a.205-209).
- 43 Jones 1988: 102 (I.a.231).
- 44 Jones 1988: 96 (I.1.202), Vinson 1996: 191-98.
- 45 Jones 1988: 67 (I.a.78).
- 46 Jones 1988: 98-99 (I.a.216).
- 47 Jones 1988: 126 (I.e.14).
- 48 Jones 1988: 51 (I.a.11).
- 49 Jones 1988: 67 (I.a.79, 80).
- 50 Jones 1988: 93 (I.a.191), Säve-Söderbergh 1946: 78-79.

- 51 Jones 1988: 109 (I.a.256).
- 52 Jones 1988: 124 (I.e.11).
- 53 Jones 1988: 125 (I.e.12).
- 54 Jones 1988: 106 (I.a.246).
- 55 Jones 1988: 75 (I.a.111).
- 56 Jones 1988: 103-04 (I.a.234-36).
- 57 Jones 1988: 210 (VI.11).
- 58 Jones 1988: 227 (VI.106, 109).
- 59 Jones 1988: 229 (VI.119, 120).
- 60 Jones 1988: 221 (VI.71).
- 61 Jones 1988: 223 (VI.84).
- 62 Jones 1988: 226 (VI.103).
- 63 Jones 1988: 121 (I.d.15).
- 64 Jones 1988: 230 (VI.123).
- 65 Boreux 1925: 342-44.
- 66 These are also called paddles (Bass and Wachsmann 1997: 34).
- 67 Lipke 1984: 24, 126.
- 68 Lipke 1984: 103, 126, 130 n. 51; Jenkins 1980: 53-54.
- 69 Morrison 1993: 17-18; Shaw 1993: 59 fig. 10.1, 62.

<sup>70</sup> Shaw 1993: 59 fig. 10.1.

<sup>71</sup> Winlock 1955: 63. In at least one instance, spaded blades appear on model oars (Göttlicher and Werner 1971: pl. xxxvi.7). This may be an error by the artist, or else they belong to a paddled boat and were misplaced by the restorer; I have encountered no other examples.

<sup>72</sup> This chevron is not visible in the photographs, only in the figure. As Winlock does not remark upon it, I cannot say if it is present upon all the paddles, or only this particular one from Yacht U.

<sup>73</sup> Dodd 1992: 62.

<sup>74</sup> Culler 1978: 42.

<sup>75</sup> Reisner 1913: 60.

<sup>76</sup> Paint can affect the balance of an oar ( Bourne 1925: 190).

<sup>77</sup> Compare the quarter rudder blade pictured on the west gateway of the Buddhist stupa, Sanchi (Hornell 1946: pl. 1). For the modern practice of "gluing up" oarblades, see Culler 1978: 40-41.

<sup>78</sup> Glanville 1972: 1.

<sup>79</sup> Glanville 1972: 4.

<sup>80</sup> Leospo and Fozzati 1992: pl. X.3.

<sup>81</sup> The spooning may be seen in Reisner 1913: pl. XVI, and in Göttlicher and Werner 1971: pl. XXXVI.11.

<sup>82</sup> Cf. the oars aboard boats in the reliefs of Sargon II (eighth century BCE) at Nineva (Linder 1988: 300 figs. 7, 8).

<sup>83</sup> Reisner 1913: 87.

<sup>84</sup> Haldane 1993: 202-39 makes no mention of them.

<sup>85</sup> Landström 1970: 98 figs. 311-12.

- 86 EM 5144, EM 5145 (Reisner 1913: 135).
- 87 Reisner 1913: 135.
- 88 Reisner 1913: 135.
- 89 Aldred (1973: 146) identifies him as a "shipwright."
- 90 BM 35204 (Glanville 1971: 45 fig. 45).
- 91 Borchardt 1913: pl. 13.
- 92 Cord is used in the models. Cf. Winlock 1955: 95. For comments on the performance of leather and rawhide grommets, see Coates 1993: 49.
- 93 Jenkins 1980: pl. VIII.
- 94 MMA 22.1.16: Goedicke 1971: no. 49. ROM 958.493: *ibid.*: no. 107.
- 95 Landström 1970: 69.
- 96 Davies and Gardiner 1920: 20 n. 1.
- 97 Davies and Gardiner 1920: 20 n. 1.
- 98 Landström 1970: 84, 85 figs. 255-257, 87 fig. 265.
- 99 Jones 1995: pl. VI. Jarrett-Bell (1930: 11-12) likewise thought these objects to be tholes.
- 100 Landström (1970: 82) calls these "pallets" and makes no connection between them and the "tholes."
- 101 Vandier 1969.1 904 ff.
- 102 Vinson 1987: 100-103.
- 103 Vinson 1987: 100.

104 I am aware of no illustrations of men facing forward grasping looms fitted through any kind of grommet or oarlock. Boreux (1925: 313) makes mention of them, but aside from the unusual position of the men's hands, I see no evidence in his illustration (fig. 102) of push rowing. Push rowing was known in Mesopotamia, however, according to Herodotus (I.194), and according to G. F. Bass (personal communication), it is common in the Mediterranean today. Cf. Hornell 1946: 105.

105 Model: Meketre's Sporting Boat X (Winlock 1955: pl. 51).

106 For backward-facing punters, see fig. 1-2.

107 Winlock 1955: pl. 52.

108 S. Wachsmann, personal communication.

109 Casson 1986: 18, Jones 1995: 68, Vinson 1996: 1992.

110 Smith 1981: 128.

111 Unmanned: EM 4813-17 (Reisner 1913: 19-22, pls. V-VI); EM 4882-84 (Reisner 1913: 53-55 pls. XIII, XXVII); EM 4886-88 (Reisner 1913: 56-59 pls. XIV-XV); Landström 1970: 23 fig. 66; Landström 1970: 24 figs. 70-72.

112 BM 59011 (Glanville 1972: 58-60); Meketre's Traveling Boats O and Q (Winlock 1955: 47, pl. 38, 72, 74), Kitchen Tender S (Winlock 1955: pls. 41, 43, 76).

113 EM 4798-4801 (Reisner 1913: 1-7, pl. I-II). For a rower from such a model see EM 4800 (Reisner 1913: 5).

114 Glanville 1972: 48, pl. IXa (BM 35291).

115 Cf. Boreux 1925: 322 for exceptions.

116 Boreux 1925: 319-24.

117 Boreux 1925: 320.

118 Paddlers holding their blades above the water: figs. 7-3, 7-6, 7-35.



- 119 Boreux 1925: 322-24, 326-28.
- 120 Davies 1943: pl. LII, Schäfer 1986: 307 fig. 317a.
- 121 For an example of a seated catch, see fig. 7-44 boat 4, in which the oars are angled as in boat 3.
- 122 For Middle Kingdom examples, figs. 7-27 and 7-31.D, E.
- 123 Vinson (1996: 191) believes that cargo boats during the later New Kingdom and Late Period had small crews and were seldom rowed, the main forms of propulsion being sail or towing.
- 124 Cf. Indian *holas* and dinghis, rowed from stations at the bow (Hornell 1946: 242-243, 251). A station at the bow is also advantageous in a headwind (Culler 1978: 107), a condition often encountered on the Nile. Some boats appear to have been rowed from the stern (fig. 7-62, boat 9). Other boats in this scene have no rowers at all (7, 8). If this is not the result of artistic convenience (the draftsman dispensing with the rowers to display the goods being shipped), the helmsman may be sculling.
- 125 Hornell 1946: 242-243, 251.
- 126 Culler 1978: 107.
- 127 Note the lanyard in fig. 6-25.
- 128 Boreux 1925: 320-21.
- 129 Boreux 1925: 322.
- 130 Jarrett-Bell 1930: 12-19.
- 131 Jarrett-Bell 1930: 18, Wachsmann 1998: 247-48.
- 132 Jarrett-Bell 1930: 12. For rowing the reconstructed trireme *Olympias*, see Rankov 1993 and Shaw 1993; for the alleged use of the sliding stroke aboard Greek triremes, see Hale 1996. I cannot comment on Jarrett-Bell's observations (*ibid.*) that the style of stroke described in his text was used aboard barges on the Thames.
- 133 Landström 1970: 69; Jones 1995: 69.

134 For a discussion of various appearances of this baton, see Fischer 1978: 16-17.

135 Note that here, aboard a small cargo boat, the captain uses not a whip but a simple stick.

136 Säve-Söderbergh 1946: 73. Nevertheless, the "scourged sailor" was a far less popular motif in Egyptian art than the "scourged laborer." For a discussion of shipboard discipline see Vinson 1996: 148-49, 205.

137 Epigraphic Survey 1979: pl. 23. He is certainly playing for the procession, rather than for the rowers.

138 Meketre's Traveling Boat O (Winlock 1955: 56-57, pl. 39).

139 For a small sampling of modern Nile boatmen's songs, see Manning and Thwing 1891: 90. Vinson (1996: 201-02) notes ancient Egyptian stevedore's songs.

140 Jones 1988: 106, I.a.246.

141 Helck 1955: 1279.19; Lichtheim 1973-80.2: 41, 43 fn 8. Curiously, neither Jones (1988: 106, I.a.246) nor Faulkner (1962: 273) makes any reference to this occurrence of the term.

142 E.g., Wreszinski 1988.1: pl. 308.

## CHAPTER VIII

### MOORING

When there rises a whirlwind of words,  
[These words of wisdom] will be a mooring post  
for your tongue.

Instruction of Amenopet<sup>1</sup>

### MOORING IN RELIGION AND METAPHOR

In the ancient Egyptian language, "to moor" frequently means to die. Claiming to have moored is an essential part of several spells in the Coffin Texts, including that of becoming a goose (CT 278), which equates mooring with the alighting of a bird.<sup>2</sup> The deceased hopes to "moor happily with Osiris," the Egyptian god of the dead.<sup>3</sup> In a Dynasty VI tomb, the deceased is promised "in peace, in peace, may you unite (with) land. . . ."<sup>4</sup>

Being brought to land is as important as the voyage: the voyage must, after all, end successfully, or what is it but mere wandering, if not shipwreck? The deceased, claiming to be Isis, says that "Horus brings me to land just as he brought the boatless Eye of Horus to land."<sup>5</sup> The solar barque is said to "come to land in the western sky."<sup>6</sup> In CT 815, the deceased promises to "steer [the night-barque] straight for(?) land" and to "land at the horizon."<sup>7</sup> Similar examples are found in the Book of the Dead,<sup>8</sup> in which the soul vows to "set out in the day barque and moor in the night barque."<sup>9</sup> CT 759 credits "celestial kine," associated elsewhere with knots, with helping the deceased to "come to land."<sup>10</sup>

Several times in the Coffin Texts the deceased claims to have moored the ferry-boat. In CT 132, the deceased "reminds" the gods that as the god Atum he "found the ropes which were severed in the ferry-boat of the flood; I have knotted them and moored it."<sup>11</sup> With such claims, the deceased reunites his family in the netherworld.<sup>12</sup>

Like rowing and steering, the labor of mooring was viewed as an honorable chore the deceased

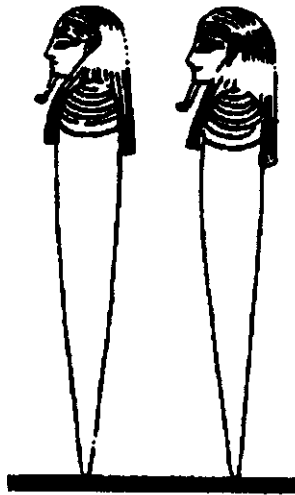


Fig. 8-1. Deified mooring stakes. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. XCIV.

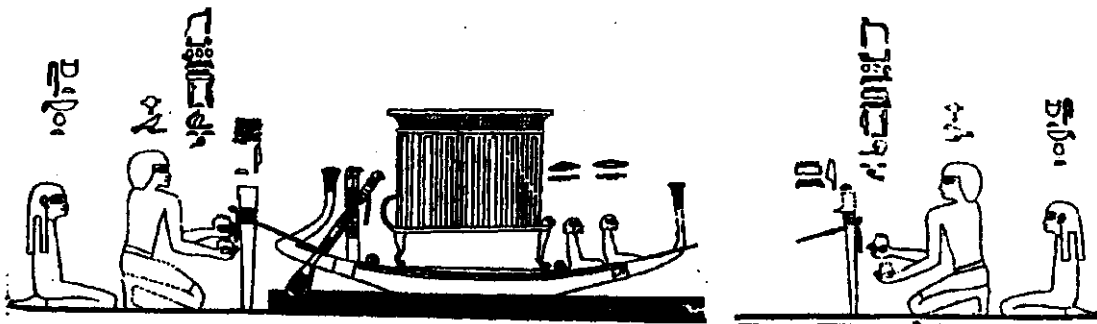


Fig. 8-2. Making offerings to the mooring stakes. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. LXXX, LXXXI.

willingly undertook.<sup>13</sup> Only once is mooring considered undesirable. BD 85 calls it an “abomination,”<sup>14</sup> referring not generally to mooring but specifically to arriving at the “execution place” in the netherworld.

Deified mooring stakes may have human heads (fig. 8-1), and the “Great Mooring Stake” calls to awaken the dead in CT 516.<sup>15</sup> CT 234 speaks of “presenting the mooring stake.”<sup>16</sup> In the Osirian rituals of presenting drink and other offerings to mooring stakes and lines, a boat in the form of the sacred *neshmet*-barque is shown moored from both bow and stern (fig. 8-2).

As with other parts and equipment of a boat, the mooring equipment had magical names.

The “forward mooring stake” is referred to as “Nekhbet with her arms about Horus.”<sup>17</sup> Elsewhere the mooring stake is referred to as “[. . .] west of the seats of *Rrwr*”<sup>18</sup> and “Lady of the Two Lands in the Shrine.”<sup>19</sup> With the “doors, ribs(?), and ‘sandals’” it is equated with the “calves and thighs of Horus.”<sup>20</sup>


## TERMINOLOGY OF MOORING

The Egyptian word for “to moor” is *mn**l*, from *mn*, “to be firm, established, enduring,” and generally taking on the meaning of “joining (e.g., in marriage), saving (e.g., a drowning person).”<sup>21</sup> Synonymous phrases generally mean “to land.”: *wḏl r t3* (“put to land”),<sup>22</sup> *s3h t3* (“come to land”),<sup>23</sup> *sm3-t3* (“bring to/unite with land”).<sup>24</sup>

The mooring stake is *mnlt*,<sup>25</sup> less frequently *n'yt* (which may be a cleat).<sup>26</sup> It is driven in (*hwl*)<sup>27</sup> by means of a mallet (*hṛpw*).<sup>28</sup> The gangplank (*ḡbwt*)<sup>29</sup> is set up (*lry*)<sup>30</sup> and kept steady (*mm*).<sup>31</sup>

Several words mean “mooring line” in Egyptian. By far the most common is *h3tt*, literally “bow line.”<sup>32</sup> Alternatives include *ḡ3*,<sup>33</sup> *m3c*,<sup>34</sup> *pḡtt* (“stern line”)<sup>35</sup> and *nḡrt*.<sup>36</sup> *Wsrt* is a late writing for *h3tt*.<sup>37</sup> These lines are taken hold of (*šsp*),<sup>38</sup> made fast (*hy*),<sup>39</sup> and lifted up or cast off (*wṡs mnlwt*).<sup>40</sup>


Verbs employed for launching or pushing off from land are *wḏl*,<sup>41</sup> *mḡl*,<sup>42</sup> *ms*,<sup>43</sup> *h3*,<sup>44</sup> and *g3/g3w*.<sup>45</sup>

There is no confirmed Egyptian term for anchor. In his list of terms for ship's equipment, D. Jones includes *ḥꜥ(?)* or *ḥꜥ-mw* as "sounding pole, anchor (?)." <sup>46</sup> *ḥꜥ-mw* is literally "strike the water," or perhaps "water-striker." The "branch" determinative  makes a wooden object such as a sounding pole far more likely. <sup>47</sup>


## MOORING STAKES AND POSTS

In art, ancient Egyptians are seen driving into the ground mooring stakes, to which a line is then tied.

There are four varieties of mooring stakes or posts. The original form is the peg. The peg could have a flat (figs. 6-34; 8-2, left) or domed (figs. 8-3?, 8-4.A-C) top. It first appears in the art of Dynasty VI (fig. 6-34).

The second form is the spurred (fig. 8-2, right; figs. 8.4.F, 8-5). Absent from nautical scenes earlier than the New Kingdom, it nevertheless occurs in Old Kingdom hieroglyphic texts (fig. 8-4.F). It was also used for net stakes (fig. 8-4.D, E), but seems otherwise unrepresented in models. The Egyptians considered this to be the archetypal mooring stake, employing it extensively as the biliteral *mn* . One Dynasty XVIII ritual scene shows both spurred and peg forms in use simultaneously (fig. 8-2).

The third form is the hooked (figs. 8-6.A, B, C, D; 8-7), a variation of which has a knobby top (fig. 8-6.B). Although hooked net stakes appear (fig. 8-6.C), both forms are particular as mooring stakes to the Amarna and Post-Amarna Periods.

The fourth form of mooring post, the forked (figs. 8-8, 8-9), occurs in two pictures of the temple harbor at Karnak, one from late Dynasty XVIII, the other from early Dynasty XIX. The latter, from TT 19, shows it in some detail (fig. 8-9). Its lower half is wrapped with rope, leather or cloth. It is also wrapped at the base of the fork; here the loose end is allowed to hang free. <sup>48</sup> It appears to be made of two or three pieces, the fork not being natural or carved, but achieved by binding two pieces of wood to a straight stake; what may be the upper tip of the stake extends above the bindings. Although a practical form, it may have been chosen for symbolic reasons. It is the shape of the *shnt*  "support of heaven," of which there are said to be four, corresponding to the cardinal points. <sup>49</sup> These posts were permanent features of the quay.

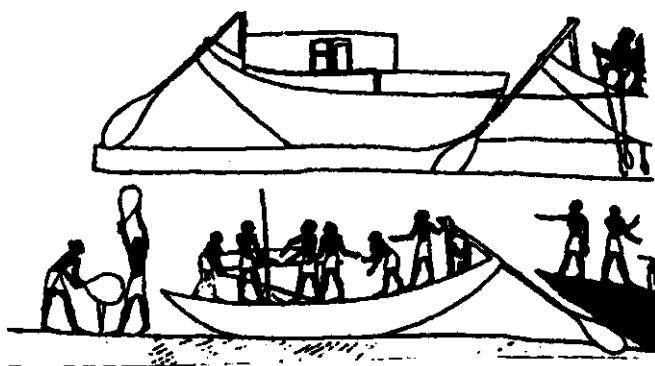


Fig. 8-3. Men driving in a mooring stake with mallets. Painting. Beni Hasan, Tomb of Amenemhat. Dynasty XII (Senwosret I). From Newberry 1893-94.2: pl. XII.

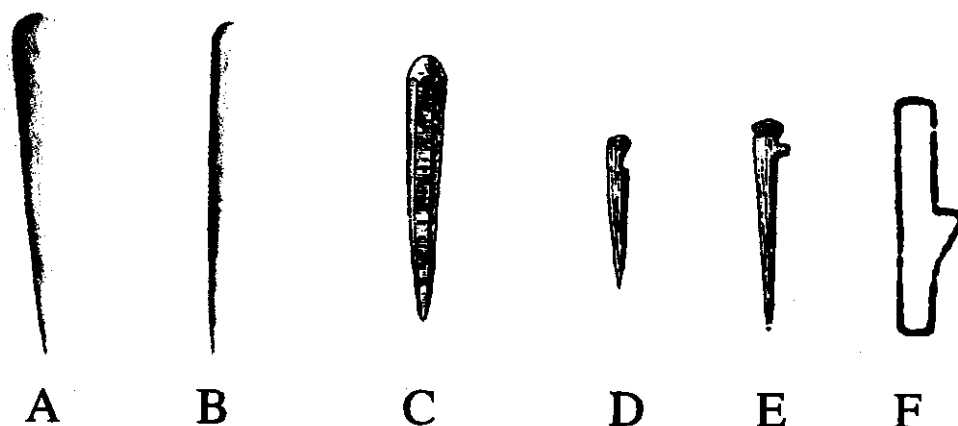


Fig. 8-4. Mooring stakes (models: A-C; hieroglyph: F) and net stakes (models: D, E). A, B: From Meketre's Yacht T. Wood. Meir, Tomb of Meketre. Dynasty XII (Mentuhotep III). From Winlock 1955: pl. 50. C: Berlin-W. 12. Wood. From Göttlicher and Werner 1972: pl. XLI.10. D, E: From Meketre's Sporting Boat X. Wood. Meir, Tomb of Meketre. Dynasty XII (Mentuhotep III). From Winlock 1955: pl. 83. F: Dynasty VI. After Junker 1929-43.6: fig. 16.

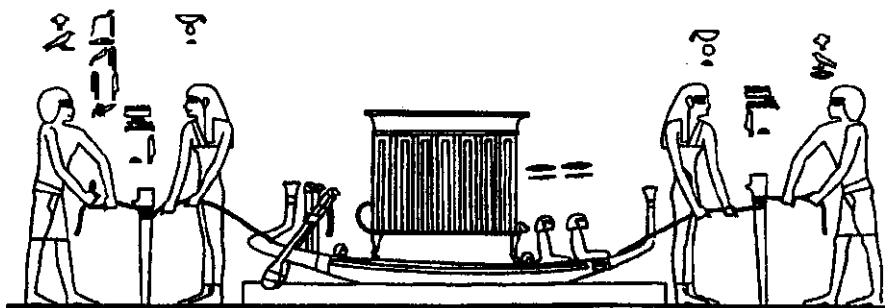


Fig. 8-5. Ritual mooring. Painting. TT 100. Dynasty XVIII (Thutmose III - Amenhotep II). From Davies 1943: pl. LXXXII.

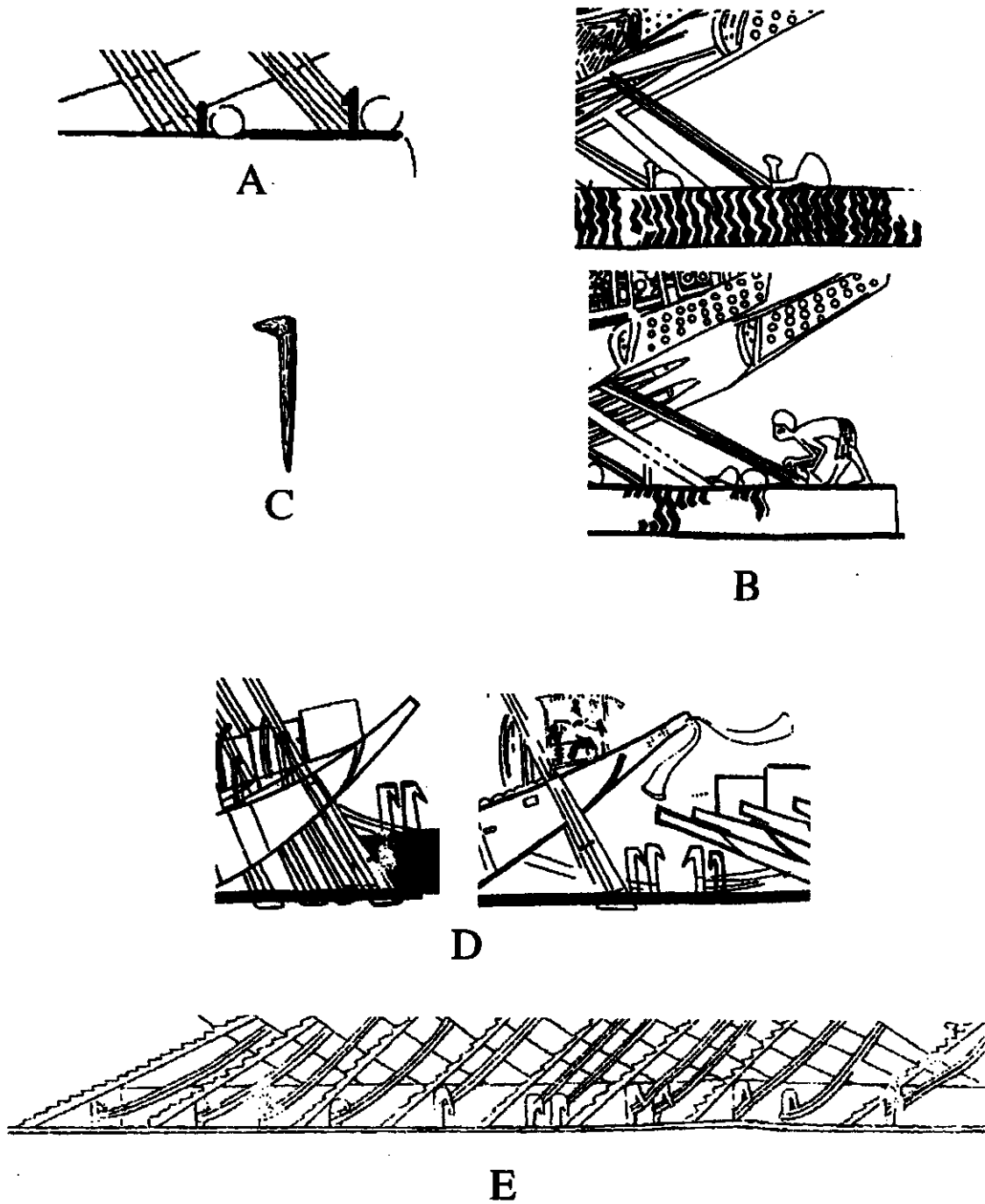


Fig. 8-6. Late Dynasty XVIII hooked mooring stakes (A, B, D, E) and Dynasty XII net stake (C). A: Detail from fig. 1-12. B: Detail from fig. 4-10. C: From Meketre's Sporting Boat X. Wood. Meir, Tomb of Meketre. Dynasty XII (Mentuhotep III). From Winlock 1955: pl. 83. D: Detail from fig. 5-5. E: Amarna, Tomb of Maya. Dynasty XVIII (Akhenaten). From Davies 1903-08.5: pl. V.





Fig. 8-7. Moored boat. Relief. Amarna. Dynasty XVIII (Akhenaten). After Cooney 1965:81 no. 50.

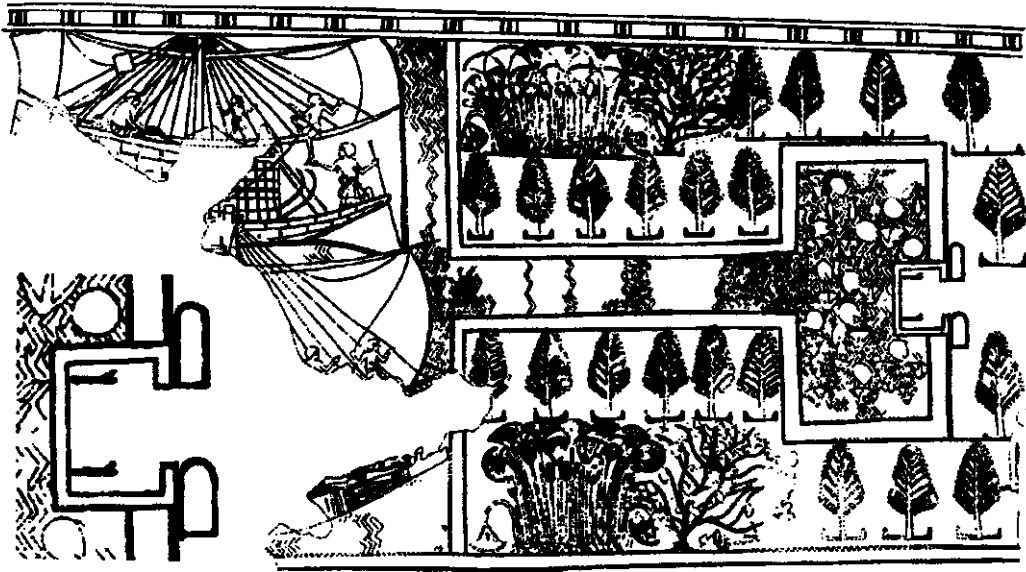


Fig. 8-8. Artificial harbor with quay at the Temple of Amon at Karnak. Inset at left: detail of quay. Painting. TT 49. Dynasty XVIII (Ay?). From Davies 1933: pl. XLII.

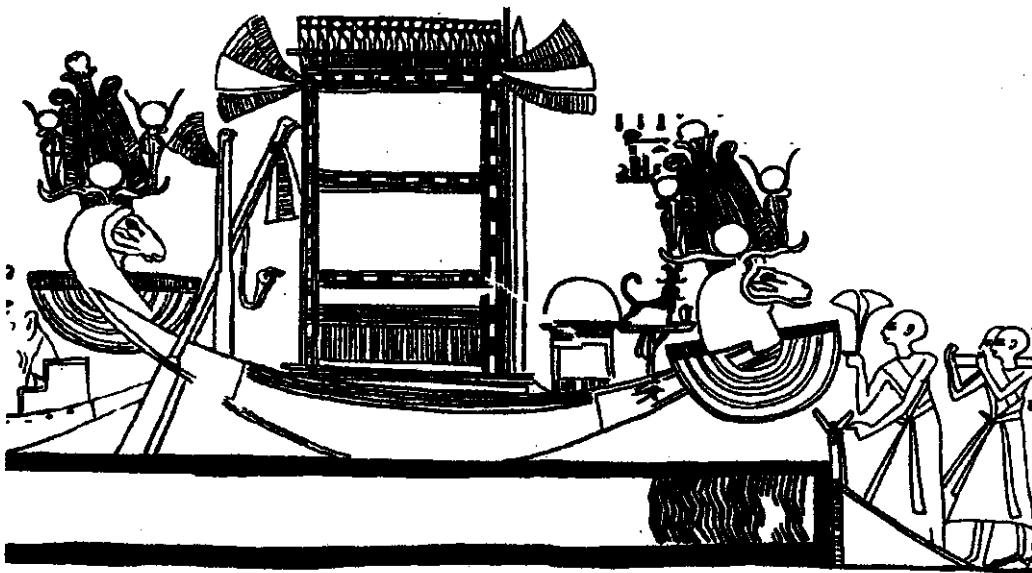


Fig. 8-9. Artificial harbor with quay at the Temple of Amon at Karnak. Painting. TT 19. Dynasty XIX (Rameses I - Seti I). From Foucart 1932: pl. VI.

The size of mooring stakes is difficult to determine. Those *driven into the ground* in two-dimensional representations of working boats tend to be approximately thigh- or knee-high to nearby sailors (figs. 8-3; cf. figs. 8-6.B, 8-7). Mooring stakes in ritual scenes are approximately waist-high (figs. 8-2, 8-5), perhaps to make them more prominent. This corresponds to the full length of two model mooring stakes from Mekhetre's Yacht T (fig. 8-4.A, B). Apart from the helmsman, who is noticeably shorter than the other figures, the model crew of Yacht T averages 23 cm.<sup>50</sup> The mooring stakes measure 14.5 and 14.6 cm.<sup>51</sup> Assuming that figures of the men represent heights of approximately 164-170 cm, as Winlock does,<sup>52</sup> and assuming that the stakes are in scale with the figures, the stakes represent lengths of approximately 105 cm. However, it is far from certain that the figures and objects share the same scale. The mallet for driving in the mooring stakes is 8.4 cm long,<sup>53</sup> which would, in this scale, represent a length of about 61 cm, or about twice the length of known carpenters' mallets (see below).

The inconsistency of scale in the pictures of the temple harbor at Karnak (figs. 8-8, 8-9) renders it impossible to determine the height of the forked mooring posts shown there.

A vessel carried one or more mooring stakes of its own. This allowed it to put ashore virtually anywhere along the riverbank. Four mooring stakes (*n'yt*) are issued to an *lmw*-boat in P. Reisner II (Dynasty XII),<sup>54</sup> and Meketre's Yacht T carried two.<sup>55</sup> The Coffin Texts mention the "forward mooring stake."<sup>56</sup> This implies the existence of an "after mooring stake," which is found occasionally in New Kingdom scenes of working boats (fig. 4-10) and in New Kingdom offering scenes (figs. 8-2, 8-5). Notably in the offering scenes, the mooring stakes themselves are called simply *mnit*, while the distinction is made regarding the lines tied to them. That at the bow is called *h'itt* (bow line), that at the stern *phwt* (stern line).<sup>57</sup>

The material used to build the artificial terrace of the Birket Habu is described by the excavators as "hard alluvium."<sup>58</sup> The harbor associated with the Middle Kingdom fortress at Serra East was cut into bedrock.<sup>59</sup> As it would have been impractical to drive stakes into such hard surfaces, and given the reasonable assumption that the harbormasters would want to maintain order in the facilities, artificial harbors probably offered permanent facilities for tying up boats. Certainly the forked stakes at the quay of the Karnak temple harbor (figs. 8-8, 8-9) and perhaps the hooked stakes at the quays of Akhetaten (figs. 5-

5, 8-6.D, E) are examples of such facilities. Unfortunately, remains of such facilities at the excavated harbors have not been identified or described in publication.

## MALLETS

Mallets used to drive mooring stakes into the ground are identical to carpenters' mallets (cf. fig. 1-5). Each has a handle and a heavy wooden head more or less conical in shape (figs. 8-3, 8-6.B, 8-10). Known examples of carpenters' mallets are approximately 30 cm in length;<sup>60</sup> those in the iconography vary considerably from this. As mentioned above, if Meketre's model mallet, which is 8.4 cm long,<sup>61</sup> is to scale with the figures, it is twice the size of that used by a carpenter, or approximately 60 cm long.

In P. Reisner II (Dynasty XII), two acacia mallets are issued to an *imw* vessel.<sup>62</sup> Despite having two mooring stakes, Meketre's Yacht T has only one mallet, made of tamarisk wood.<sup>63</sup>

## MOORING LINES AND CLEATS

The rope tied to the mooring stake is usually referred to in Egyptian as the "bow line" (*HAtr*). Ordinarily a single line runs from the deck or planking to each stake (figs. 6-34, 8-2, 8-5, 8-7). Occasionally two (fig. 8-6.B) or even three (fig. 8-6.C) lines (perhaps a single line run from the hull to the stake and back to the hull again, as appears to be the case in fig. 8-6.E) are used to tie a boat to its mooring stake. Some of the Coffin Texts refer to multiple mooring lines.<sup>64</sup>

Iconography does not reveal the means by which lines were secured to the vessel. In reliefs and paintings the lines disappear at the sheer strake. As discussed elsewhere, mooring equipment is virtually absent in three-dimensional representations; Meketre's Yacht T, although provided with mooring stakes and mallet (figs. 8-4.B, C, 8-10), lacks not only a mooring line but any means to secure one to the vessel. Neither the Khufu I ship<sup>65</sup> nor the Dashur boats<sup>66</sup> are provided with any fittings dedicated specifically to the mooring line. The only illustration that may show a mooring line on deck has it unsecured and coiled (fig. 8-11); this scene is discussed further below.

One feature encountered exclusively in Middle Kingdom models of the sort having a centerline



Fig. 8-10. Model mooring mallet from Meketre's Yacht T. Wood. Meir, Tomb of Meketre. Dynasty XII (Mentuhotep III). From Winlock 1955: pl. 50.

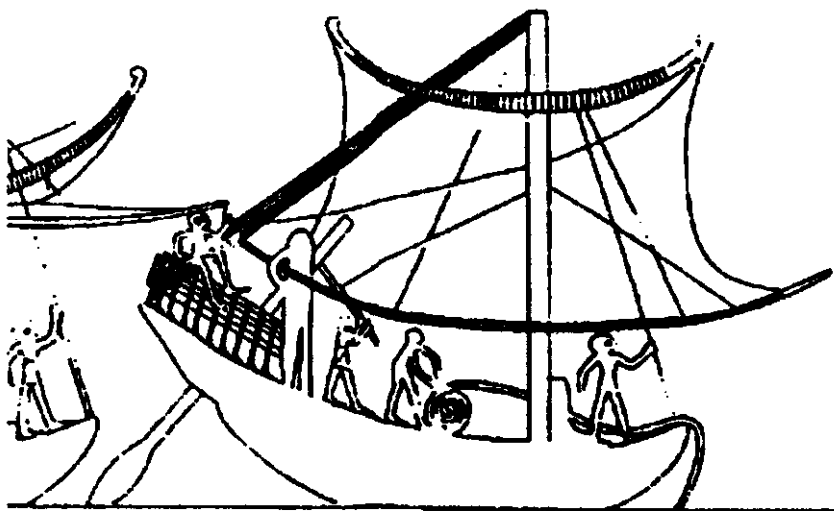


Fig. 8-11. Boat with mooring rope (?) coiled on deck. Painting. Deir el-Gebrawi, Tomb of Djau. Dynasty VI. From Davies 1902.2: pl. VII.

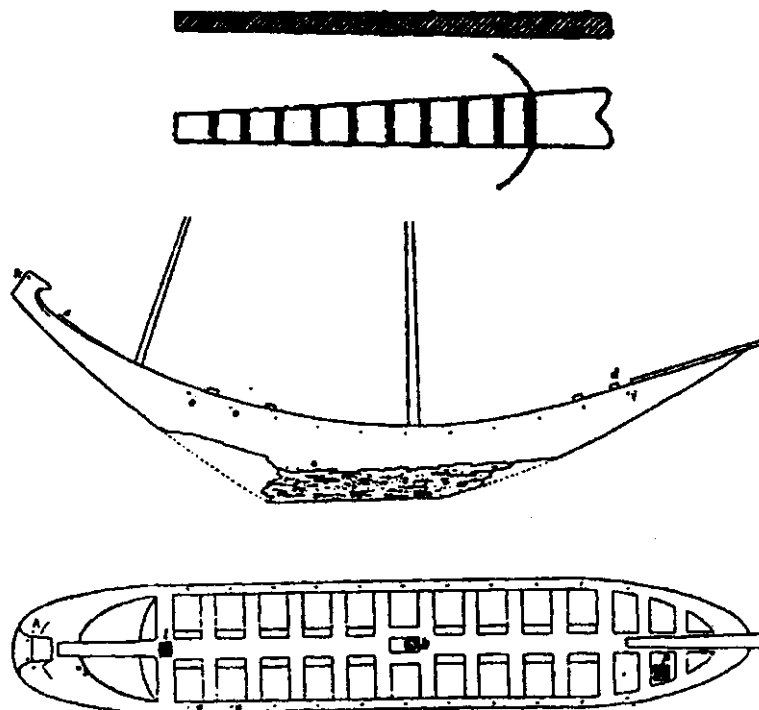


Fig. 8-12. Model boat with a "bow stick" (EM 4798). Wood. Meir. Middle Kingdom. From Reisner 1913: 1 figs. 1, 2, 4.

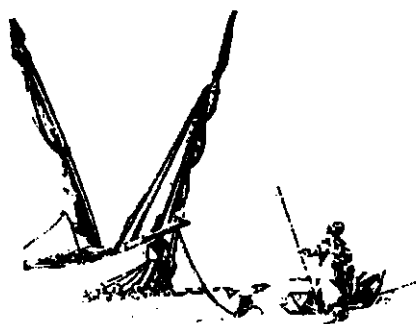


Fig. 8-13. Egyptian vessel moored. Eighteenth century C.E. After Basch 1985: 450 fig. 7.

steering-oar (Reisner's Type II) has been interpreted as a fairlead for a bow line.<sup>67</sup> It is a flat, striped piece fastened to the deck, extending a short distance over the bow, usually with a shallow fork at the outboard end (fig. 8-12; cf. fig. 4-13, 4-14, 6-68, 7-20). Reisner refers to this plank as the "bow-stick."<sup>68</sup> Glanville calls it the "center strip."<sup>69</sup> A virtually identical piece of equipment is used as a fairlead in modern times (fig. 8-13); but here a metal anchor is used and the plank has a hole, rather than a notch.<sup>70</sup> In no pharaonic Egyptian illustration is this "bow-stick" used in conjunction with a mooring line, or with anything else.

## GANGPLANKS

Gangplanks make their appearance in art with mooring stakes in Dynasty VI (fig. 6-34). Several types appear in models, reliefs and paintings.

Plank gangplanks appear first in the iconography (figs. 4-10, 5-4, 6-34, 8-15, 8-16), and their use persists into the present day (fig. 8-14): a board wide enough to walk across, hewn flat on both faces, thick enough to support the weight of a stevedore and his load.

To provide traction or ease the angle of incline for the stevedores, the Egyptians eventually equipped gangplanks with steps; this detail appears in both scenes and models of the Middle Kingdom and later. The draftsman conventionally illustrated these gangplanks in profile (figs. 1-15, 1-16, 8-7, 8-15), but in one instance the draftsman has shown the upper surface of the plank, indicating steps by lines perpendicular to its axis (fig. 8-17). Stevedores walk along the "edge."

Gangplanks have long treads and short "risers," and run shore-to-ship at a shallow angle. In type I, the "risers" face downslope, and the gangplank is, in effect, a portable set of shallow, sloping stairs (figs. 8-7, 8-17, 8-18).<sup>71</sup> A Ramesside scene illustrates a burdened stevedore walking up such a gangplank (fig. 8-17). The draftsman has kindly widened the step on which the stevedore stands so as to comfortably accommodate both his feet. Unoccupied steps are narrower. If the forked end of Meketre's model gangplank is intended to improve its purchase on the riverbank (which is by no means certain), the "risers" of Meketre's model gangplanks (fig. 8-19) face upslope, perhaps to serve as surfaces against which the ball of the foot (descending) or heel (ascending) may brace. This may be what the draftsman intended to



Fig. 8-14. Egyptian stevedores unloading bricks. Late twentieth century C.E. After Hollander and Mertes 1984: 62.

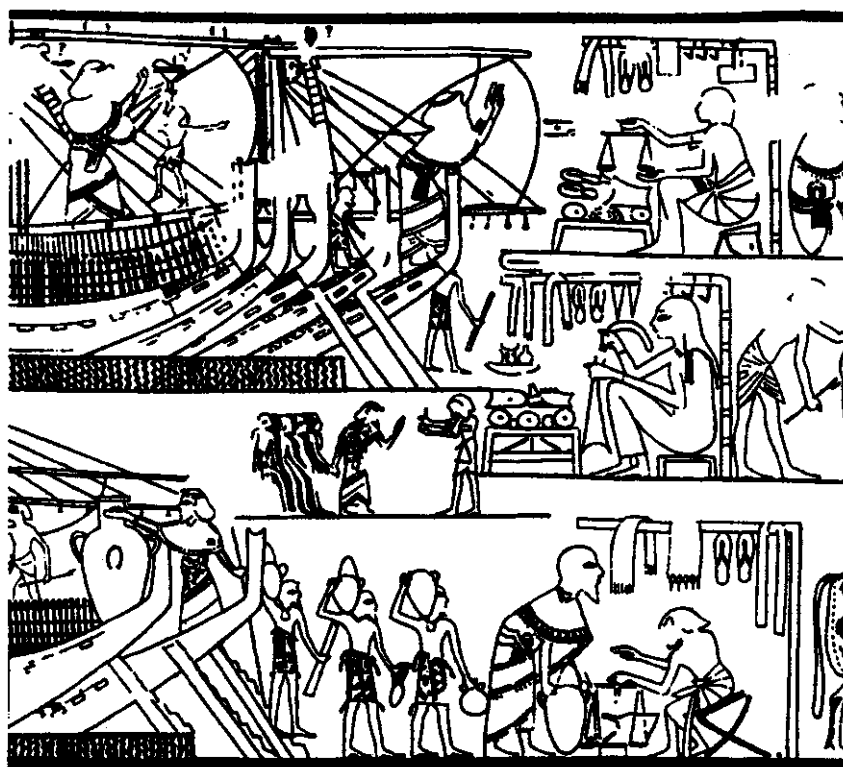


Fig. 8-15. Syrian vessels moored. TT 162. Dynasty XVIII. From Davies and Faulkner 1947: pl. VIII.



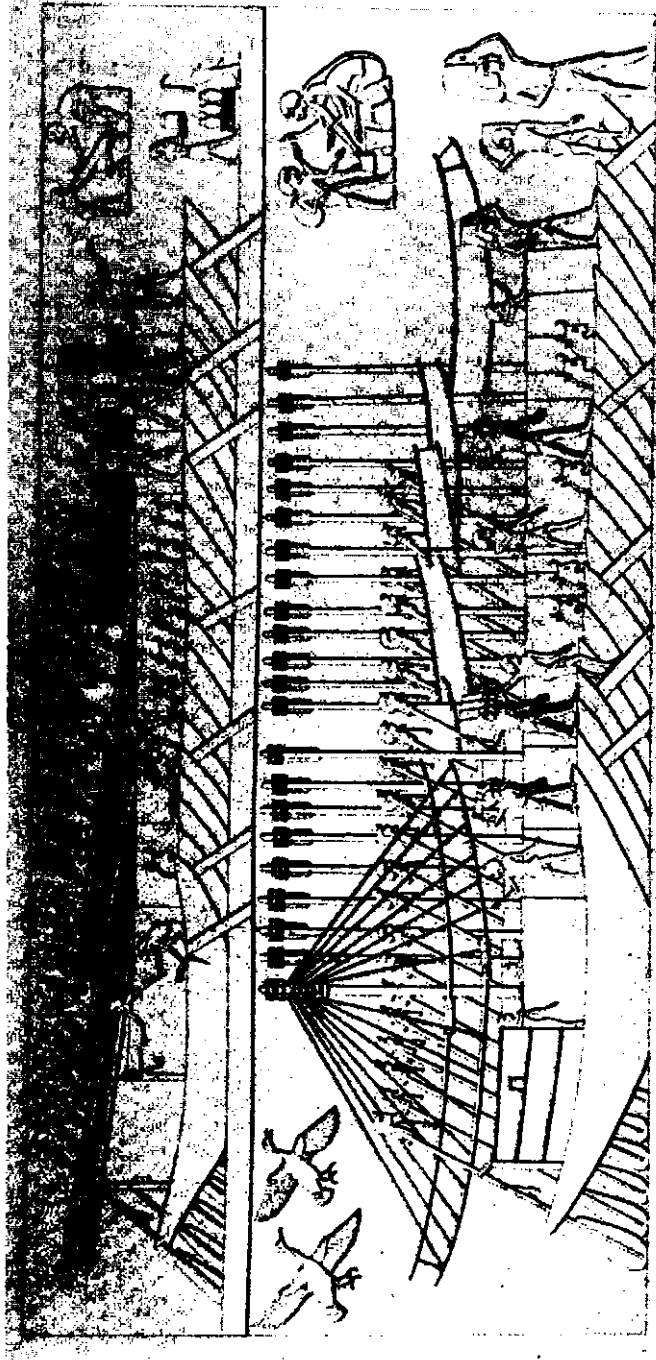


Fig. 8-16. Stevedore unloading supplies at the Birket Habu for the jubilee of Amenhotep III. TT 57. Dynasty XVIII (Amenhotep III). From Lepsius 1849-59.5: pl. 76b.

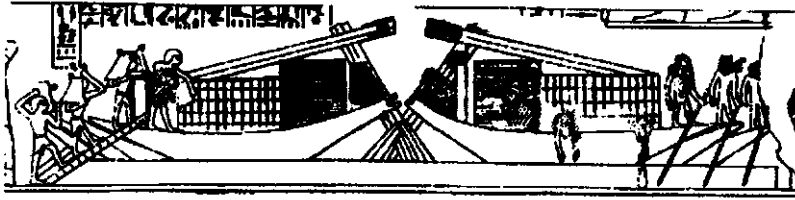


Fig. 8-17. Cargo boats. Relief. El Kab, Tomb of Paheri. Dynasty XVIII (Thutmose III). From Tylor and Griffith 1894: pl. III.

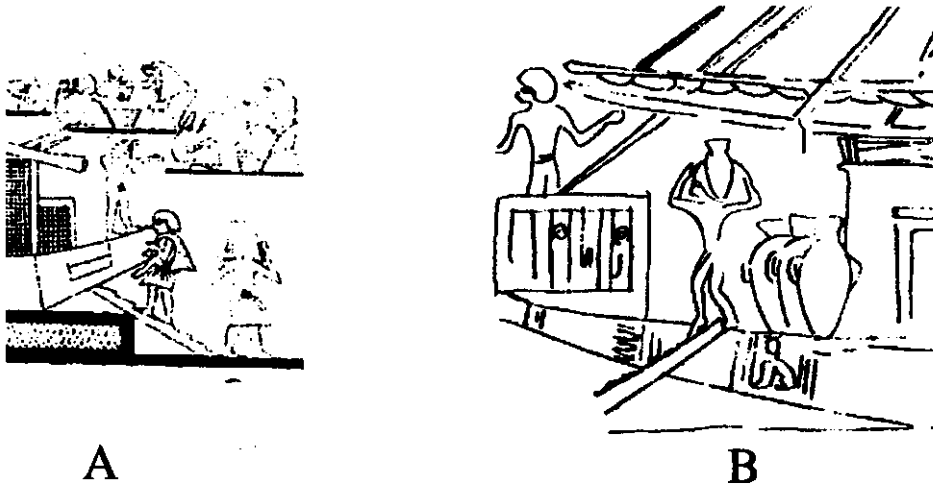


Fig. 8-18. Stevedores. A: Painting. TT 217. Dynasty XIX (Rameses II). From Davies 1927: pl. XXX. B: Detail, fig. 1-15.



Fig. 8-19. Model gangplank from Meketre's Yacht T. Wood. Meir, Tomb of Meketre. Dynasty XII (Mentuhotep III). From Winlock 1955: pl. 50.

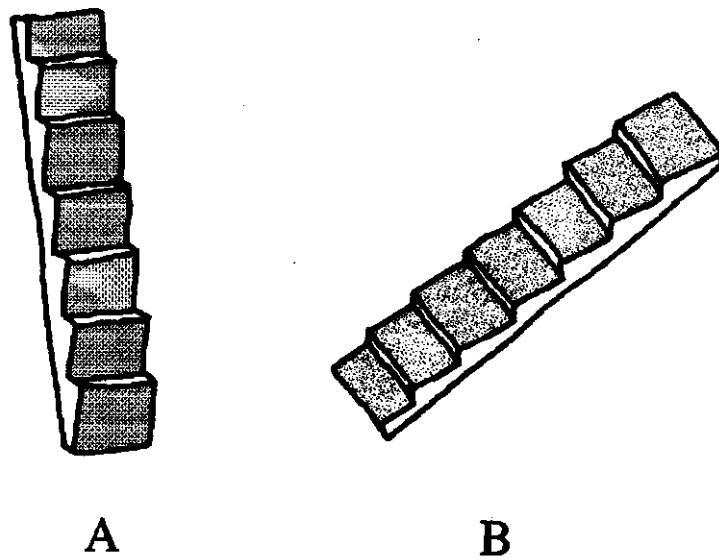


Fig. 8-20. Model gangplank (Leiden 600). A: As originally illustrated. B: In proper position. Wood. From Göttlicher & Werner 1971: pl. XLI.9.

illustrate in the scene in fig. 1-18, but the treatment is loose, making it difficult to interpret exactly what he meant to indicate.

Another variety of stepped gangplank consists of a board with one face carved into steps with extremely shallow treads and very high risers (fig. 8-15). A. Göttlicher and W. Werner illustrate a model of this style (fig. 8-20.A). These are sometimes referred to as "ladders."<sup>72</sup> A stevedore would have to mount such a gangplank with his feet sideways, an extremely awkward maneuver with a load of any size. Simply by tipping the model gangplank illustrated by Göttlicher and Werner (fig. 8-20.B) it is evident that even this "ladder" is in fact an ordinary stepped gangplank. The draftsman in fig. 8-15, who was copying an earlier scene,<sup>73</sup> has placed a duplicate of a stevedore standing on the ground on the gangplanks (an error not made by the draftsman who copied the same scene for the Ramesside tomb of Iniwia),<sup>74</sup> and adapted the stepped gangplank to support the foot of the figure. "Ladder" gangplanks did not exist, being instead stepped gangplanks distorted by artistic convention.

Draftsmen shared no universal convention to depict men on gangplanks. Model-makers avoided it entirely. The simplest means for the draftsman to accomplish this position -- namely, to angle the feet from the ankle -- is the earliest adapted (fig. 6-34). This was not, however, the only solution.

In the tomb of Khaemhat (TT 57) is a scene of unloading a fleet for the jubilee of Amonhotep III (fig. 8-16).<sup>75</sup> Here the same (?) draftsman has handled this action in two different ways. From one vessel, a stevedore negotiates the plank tentatively: legs flexed at the knees, back slightly bent for balance, feet flat against the plank. The draftsman has placed another stevedore in midstep, his far leg slightly bent, foot suspended in mid air, not yet placed on the next step (differentiating this figure from the miscopied stevedores in fig. 8-15).

Gangplanks are most often shown already in place, but a New Kingdom relief from Memphis has a crewman bending over in the process of laying the gangplank to the shore (fig. 5-4). A drawing from Dynasty VI (fig. 6-34) shows a man standing on shore, draped by a rope. He bends at the waist and grasps the plank with both hands on one side, saying, "[I'm] steadying this gangplank," while another man walks up it.

Because the riverbank is always shown lower than or level to the water, the gangplank always angles down from the hull to the shore. One end may project above the sheer strake, perhaps to indicate

that the plank extended inboard (figs. 8-17, 8-18.B).<sup>76</sup> It is never shown parallel to the ground line or angling up to a steep bank.

A gangplank may not be associated with a particular boat when vessels are shown close together (figs. 8-7, 8-15, 8-16). Some are omitted to avoid crowding the scene. Although very often the gangplank overlaps the hull, sometimes it disappears behind the hull (figs. 6-34, 8-18).

With the exception of the two gangplanks associated with the Syrian ships in the tomb of Kenamun (TT 162) (fig. 8-15), the result of the draftsman miscopying another scene and omitting a vessel,<sup>77</sup> each boat has only a single gangplank.

## WOODEN WEIGHT ANCHORS

C. Boreux interprets lines in certain Predynastic depictions of ships as anchors made of wood or roots (fig. 4-2).<sup>78</sup> They are, as S. Vinson points out, quite probably tassels or ribbons.<sup>79</sup>

## STONE ANCHORS

Egyptian stone anchors generally resemble those from other Bronze-Age cultures in the eastern Mediterranean: flat-faced, more or less triangular with a rounded apex, with an apical hawser hole.<sup>80</sup> Egyptian anchors may be additionally distinguished by a groove above the hawser hole, and a basal rope hole<sup>81</sup> that may have been useful in lifting the stone from the muddy bottom of the Nile, an environment that L. Basch concludes makes the use of stone anchors impossible.<sup>82</sup>

Anchors are found reused in Old Kingdom mastabas,<sup>83</sup> in Bubastis in the Delta,<sup>84</sup> at Mersa Gawasis on the Red Sea (fig. 8-21),<sup>85</sup> at Karnak<sup>86</sup> (this having Cypriot parallels and in this context is votive),<sup>87</sup> and at Mirgissa at the Second Cataract.<sup>88</sup> There is considerable argument as to whether these stone anchors belong exclusively to maritime contexts or were used on the river, and the identification of anchors in the iconography is no less problematic.

Boreux interprets an object lowered by a man in an Old Kingdom relief (fig. 6-18) and two objects

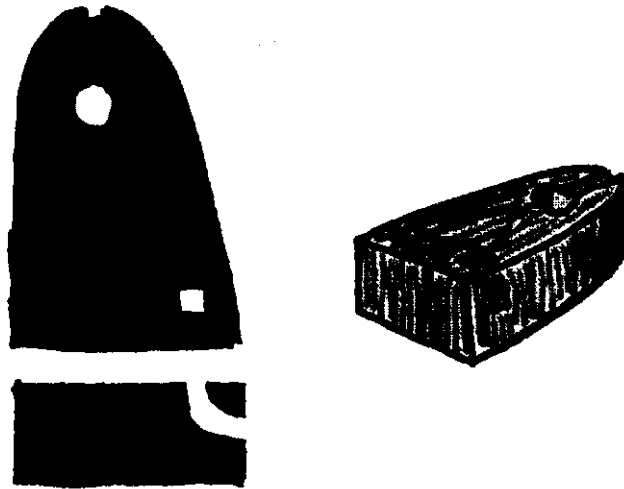


Fig. 8-21. Stone anchor. Wadi Gawasis. Dynasty XII (Senwosret I). After Wachsmann 1998: 261 fig. 12.11.

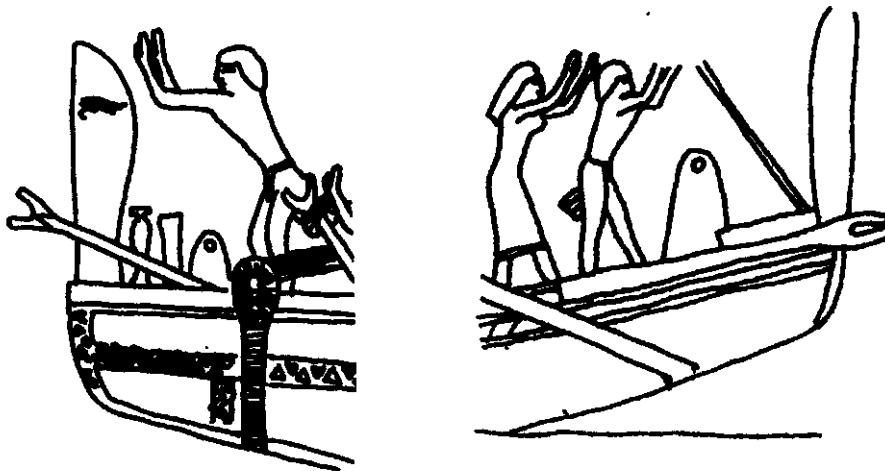


Fig. 8-22. Bows of seagoing ships. Relief. Saqqara. A: Causeway of Sahure. Dynasty V (Sahure). After Borchardt 1913: pl. 12, Landström 1970: 63 fig. 187, and *ibid.* 64 fig. 189. B: Causeway of Unas. Dynasty V (Unas). After Landström 1970: 64 fig. 192.

hung over the side at bow and stern of a Middle Kingdom model as stones used for this purpose (cf. fig. 6-68).<sup>89</sup> The objects with the model, however, are a pair of fenders. In the relief, a man lowers an object that may be a gourd or jug to bring aboard water, a motif common in Egyptian nautical scenes (fig. 1-11).<sup>90</sup> S. Wachsmann points out that a rope is not used to fetch water in the other scenes,<sup>91</sup> but the shape of the object does resemble that of the jug from which a man drinks and other jugs in fig. 6-25. In another scene, from Dynasty XVIII, a man reaches over the side of a ship to haul in a similar object, which touches the bottom of the register of water (fig. 8-17). A second man also reaches down to the water, but in the facsimile drawing, it is not evident what, if anything, he is holding. Is at least one of these men hauling in a stone anchor, or is he fetching water for the journey? The discovery of anchors of this shape in Egypt would settle the question, but until that time, interpretation must remain speculative.

The Dynasty VI tomb of Djau at Deir el-Gebrawi illustrates a man amidships pulling at a coil of rope (fig. 8-11). The loose end of the rope is paid out over the bow and disappears at the top of the water. Norman de G. Davies interprets this as an anchor line,<sup>92</sup> and it is difficult to imagine what else the draftsman intended.

Davies suggests that the men atop the cargo (?) of a sailing ship in a damaged scene from Rekhmire's tomb (Dynasty XVIII) are "dropping anchor stones."<sup>93</sup> As anchors would be handled from the deck, it seems far more likely that these men are occupied with the rigging.

The Old Kingdom provides the most controversial evidence of anchors. In question is the identity of triangular objects situated at the bows of vessels shown in many reliefs (figs. 8-22, 8-23). Although there is little argument that the objects aboard the seagoing ships from the Dynasty V reigns of Sahure (fig. 8-22.A)<sup>94</sup> and Unas (fig. 8-22.B)<sup>95</sup> are anchors,<sup>96</sup> the other objects (e.g., fig. 8-23) were initially interpreted as "offering loaves" to insure a safe voyage.<sup>97</sup> H. Frost,<sup>98</sup> and later A. Nibbi,<sup>99</sup> have suggested that they are anchors.

Basch has put forward the most convincing argument upholding the original identification (made by Assman) of triangular objects at the bows of other Old Kingdom river vessels such as those in fig. 8-23: 1.) The objects have no hole through which the rope would pass; this omission is unlikely to be an accident, in view of the attention the draftsmen paid to other details in the scenes.<sup>100</sup> 2) These objects are the same shape as loaves of bread known from baking and offering scenes<sup>101</sup> (fig. 8-24). 3) These

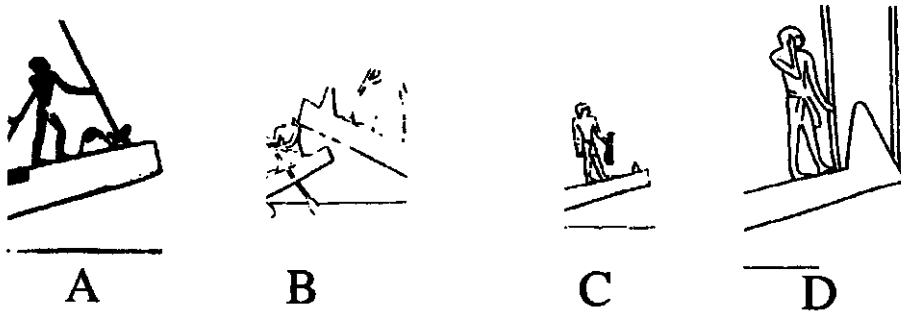


Fig. 8-23. Triangular objects at the bows of Old-Kingdom boats. A: Detail from fig. 6-14. B: Detail from fig. 7-6. C: Detail from fig. 7-42. D: Detail from fig. 7-49.



Fig. 8-24. Conical loaves of bread. A: Giza, Tomb of Debhen. Dynasty IV (Menkaure). After Lepsius 1849-59.3: pl. 36c. B: Giza, Tomb of Kaemankh. Dynasty VI. After Junker 1929-43.4: pl. XVII.

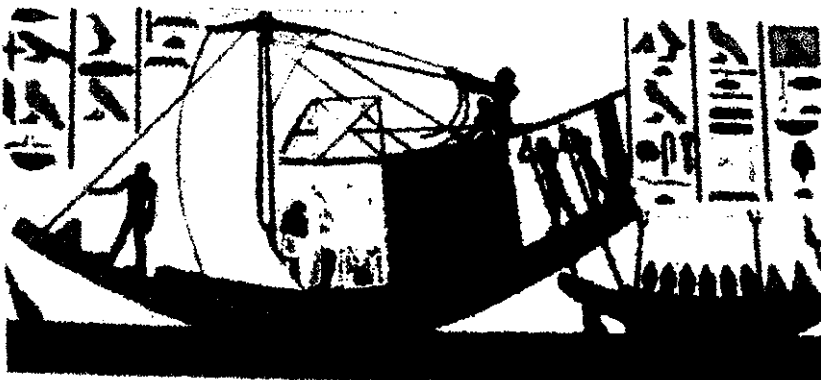


Fig. 8-25. Ship procession. Saqqara. Dynasty IV? From Lepsius 1849-59.4: pl. 96.



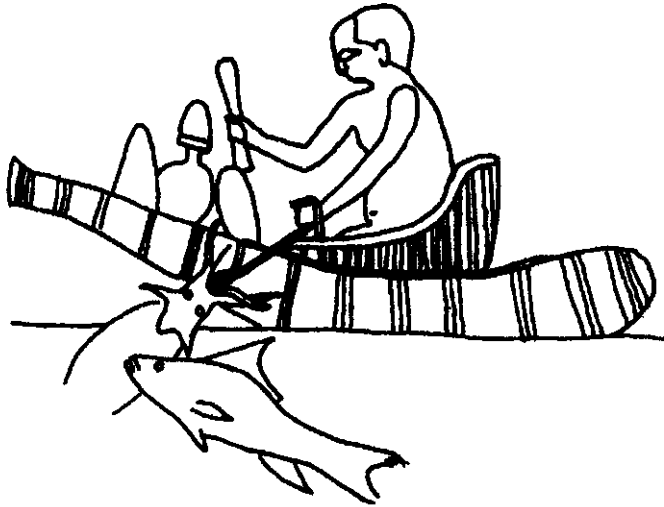


Fig. 8-26. Fisherman in a reed raft with bread and beer. Relief. Saqqara, Tomb of Ty. Late Dynasty V. After Brewer and Friedman 1989: 29 fig. 2.13.

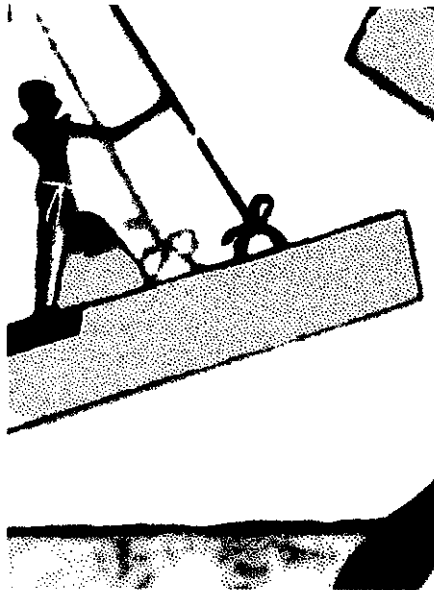


Fig. 8-27. Loaf of bread positioned at the bow of a boat. Painting. Giza, Tomb of Kaemankh. Dynasty VI. After Junker 1929-43.4: pl. III.

objects disappear from art during Dynasty VI; if these objects were anchors, assuredly their use and appearance in the iconographic record would have persisted.<sup>102</sup> 4) No anchors are associated with boat models.<sup>103</sup> To this should be added the extreme variation in scale (cf. figs. 8-23.C and D).

Triangular objects appear aboard vessels in places other than the bow. These have not, to my knowledge, been identified by anyone as anchors. Examples include: a boat carrying two large conical loaves of bread and six jugs of beer, in a scene in which the two principal boats of this fleet have a triangular object at the bow, painted yellow like the loaves (fig. 8-25); small cargo vessels (figs. 7-40 boats 1, 3, 6; 7-62, boats 4-6, 9), which may carry several, far more than a small boat would need; and a papyrus raft in the tomb of Ty (Dynasty V) (fig. 8-26). With these loaves is a jug of beer; here we have either an offering of bread and beer, or a fisherman's lunch.

Besides their shape and lack of a rope hole, do the triangular objects present any other details that would support their interpretation as loaves of bread?

In painting, loaves of bread in offering scenes sometimes appear with their tops baked brown (fig. 8-24.B). An anchor would never display such a feature. Yet that is exactly what we see in a facsimile painting of a boat with a triangular object at the bow (fig. 8-27). Unless the draftsman has transposed a loaf of bread in place of an anchor, there can be no doubt that the triangular objects without a hole, shown positioned at the bows of Old Kingdom traveling vessels, are in fact offering loaves, or at the very least wooden models of them fastened as a bow decoration, which appears to be the case particularly in fig. 8-23.D. These vessels are not shown in the context of ordinary river travel, but *imy-wrt*, the "West,"<sup>104</sup> i.e., the land of the dead. In a later period round loaves of bread appear at the bow of a papyrus raft in the netherworld (fig. 7-58).

## QUAYS AND HARBORS

In Egypt use of artificial moorages began no later than the Old Kingdom. Many of these facilities may not have been usable while the Nile was at its low point, between February and July;<sup>105</sup> the Egyptians no doubt made use of the natural riverbank during these months. The Egyptians would have necessarily confined transport of the heaviest cargo to August through October.<sup>106</sup>

Associated with the basalt quarries at Wadi el-Faras is a quay comprising a low, sloping ridge that was supplemented with fill from Lake Moeris; it is reported to be 311 m long, 19 m wide, and joins the quarry by means of an unmortared, paved road.<sup>107</sup> It was used most heavily during Dynasties V and VI, but was evidently in service during Dynasty XII and the Roman Period as well. Its location seems to have been determined by the presence of natural outcrops (islands at the time) that would serve as breakwaters. Some of these outcrops were revetted with sandstone, limestone and small pieces of basalt. Excavators have suggested that these served as offshore moorages for barges waiting for basalt to be brought down from the quarry.<sup>108</sup>

In the Theban tomb of Neferhotep, a picture of the T-shaped harbor of the Temple of Amon at Karnak illustrates a quay (fig. 8-8). The quay has forked mooring posts, also shown in the tomb of Amenmose (TT 19) (fig. 8-9); these were probably permanent fixtures. The quay of Akhetaten had hooked mooring posts (figs. 5-5, 8-6.D).

The problem of depictions of harbors (or lack thereof) has already been dealt with by B. Kemp and D. O'Connor.<sup>109</sup> Overt depictions of harbors and riverside installations are rare, and unknown prior to the New Kingdom. Most common and easily identifiable as harbors are those man-made basins associated with temples, used for nautical ritual processions.

These temple harbors, even that associated with so large a complex as Karnak, were comparatively small. In one painting, two boats approach but have not reached the Karnak harbor (fig. 8-9); Kemp and O'Connor suggest that these ships are too large to enter the basin.<sup>110</sup> The harbor of the Middle Kingdom fortress at Serra East measures approximately 20 by 10 meters,<sup>111</sup> just large enough to accommodate modest cargo and fishing vessels.<sup>112</sup> This harbor had silted up by its reoccupation during the New Kingdom, but there was nevertheless an "overseer of ships" assigned there during early Dynasty XVIII.<sup>113</sup> Larger harbors associated with temples are known, but they have been demonstrably associated with the construction of the temple, to facilitate the transport of building materials.<sup>114</sup>

In the vicinity of Karnak, working boats were serviced on the west bank at the Birket Habu, before the palace at Malkata.<sup>115</sup> This harbor is rectangular, approximately 2.4 kilometers by 1 kilometer and perhaps 5.9 meters deep,<sup>116</sup> and joined the Nile by means of a canal. The scene in Khaemhat's tomb (TT

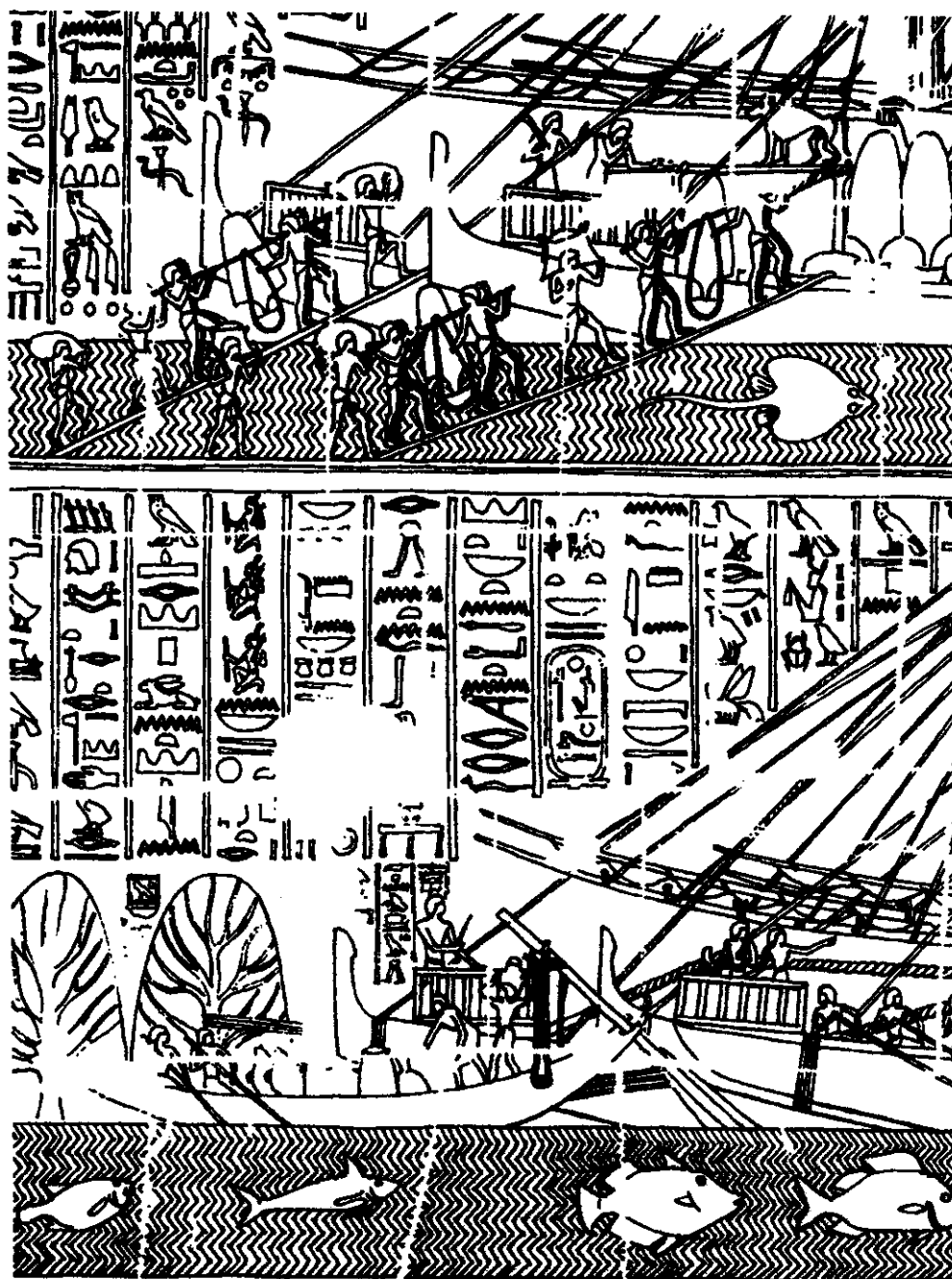


Fig. 8-28. Stevedores, and lighters servicing ships moored offshore. Relief. Deir el-Bahri, Temple of Hatshepsut. Dynasty XVIII (Hatshepsut). Detail, Björn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 122 fig. 372.

57) (fig. 8-16), which illustrates the arrival of supplies for Amenhotep III's jubilee, gives no indication of any harborworks, not even quays. Yet excavations by the University Museum clearly showed an artificial terrace that ran from the basin to beneath the palace compound, and the remains of several buildings.<sup>117</sup>

Large seagoing ships apparently moored in deep water, making use of lighters. There is no other evidence for lighters or references to ship's boats beyond the Punt expedition reliefs of Hatshepsut (fig. 8-28), and even here the ships in the upper register make do with gangplanks that the artist has made exceptionally long.

### THE PROCESSES OF MOORING AND CASTING OFF

The deceased is said metaphorically to moor at a plateau,<sup>118</sup> plain,<sup>119</sup> city,<sup>120</sup> or towns,<sup>121</sup> rather than generally along the riverbank or in the river. Ships moor at the *mryt* or *mniwt*, which may be either natural or artificial moorings.<sup>122</sup> When Piye besieged Memphis in the eighth century BCE (Dynasty XXVI), he found "ships moored at [the houses]" of the city.<sup>123</sup> In "The Spell for Landing" (CT 659), the deceased goes aboard a divine boat that is "tied up at the stairway,"<sup>124</sup> presumably like those associated with harbors and lakes (cf. fig. 6-64).<sup>125</sup>

There is, to my knowledge, only one literary reference detailing the means by which the Egyptians moored their vessels. It occurs in the opening lines of a Middle Kingdom composition commonly referred to as the "Tale of the Shipwrecked Sailor": "The worthy attendant said: Take heart, my lord! We have reached home. The mallet has been seized, the mooring-post staked, the prow-rope placed on land."<sup>126</sup> The worthy attendant (the shipwrecked sailor who is about to narrate his adventure) goes on to express his relief and that of the other sailors that they "have reached (their) land."

The description is plain enough: to secure the vessel, a sailor pounds a mallet on the mooring stake, to which is then tied a rope leading from the bow. The Coffin Texts contain references to the mooring stake being "driven in."<sup>127</sup> Few depictions of this occur. Earliest is from Dynasty XI (fig. 8-3). Two men with enormous mallets take turns pounding a mooring stake; one man strikes the stake, the other has the mallet raised over his head, ready to deliver the next blow. In TT 40, a man grasps the stake

with his far hand and with his near holds the mallet that he has just picked up from the ground (fig. 8-6.B). Mallets in scenes from this tomb lie beside their stakes (figs 8-6.A, B). Each has been left there for quick access, should a stake loosen and need to be pounded down again.

Freeing a boat from or securing it at a moorage could require the effort of more than one man. In the Dynasty XI scene just discussed (fig. 8-3), two men drive in the mooring stake. In CT 753 the deceased wishes that someone "would come to me so that I might tie up (?) a bundle and lift up the mooring ropes, for I have tied the knot for Hathor."<sup>128</sup>

In the tomb of Neferhotep (TT 49, late Dynasty XVIII), a rower (judging from the leather patch of his kilt)<sup>129</sup> wades alongside a boat in the funeral procession (fig. 8-29). He positions it for mooring, or perhaps steadies it; the pilot appears ready to step off the bow. Aiding a boat in a similar manner, but ashore and considerably outsized, is a man in a scene from the Dynasty XVIII tomb of Apuki and Nebamun.<sup>130</sup>

In fig. 8-5, the man securing the rope to the after mooring stake stands with the mooring stake between him and the vessel. He holds the rope with both hands; in his near hand, a loop of rope protrudes from his fist between his thumb and index finger. He is wrapping the rope from low to high, while a goddess holds the rope taut between the stake and the boat by pulling it away from the stake. The notch faces away from the boat.

The man tying the forward mooring stake is identical, except that the man's near hand has no loop of rope protruding from it, and the notch faces toward the boat. Each side of this scene is labeled *mnrit*: "mooring stake."

A Ramesside scene of funerary rites (TT 222) has a man about to tie the rope to a notched stake. He is pulling with both hands on the rope, which ends in a loop.<sup>131</sup>

In ritual scenes, the mooring lines are tied high on the stake, but in scenes of working boats, the lines run either to the lower portion of the stake (figs. 6-34, 8-6.A, B, D, E) or into the ground (fig. 8-6.A, B). Mooring lines are usually straight, either as convention or indicating tautness, but in fig. 8-7 they are loose and drag on the shore.

Stevedores make use of only the bow of the ship while loading and unloading cargo. Undoubtedly the ships were moored parallel to the bank or quay while the cargo was being handled. In some cases,

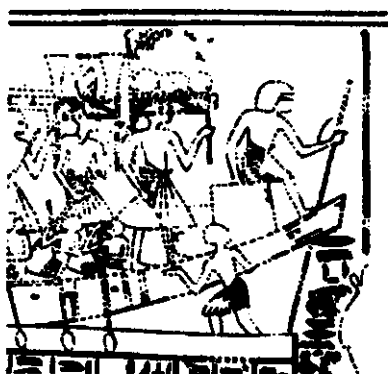


Fig. 8-29. Funerary procession coming to shore. Painting. TT 49. Dynasty XVIII (Ay?). From Davies 1933: pl. XXIII.

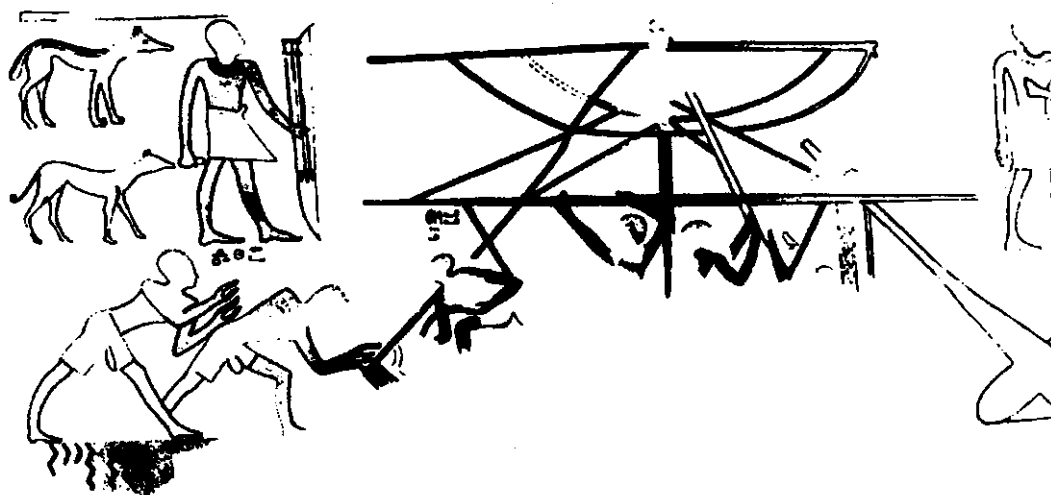


Fig. 8-30. Men shoving off a boat. Painting. El Kab, Tomb of Sobeknakht. Dynasty XVII. From Tylor 1896: pl. II.

more than one stake would be needed to prevent the ship from drifting out of position (figs. 1-12, 4-10, 5-5).

A. Schulman has pointed out that Egyptians seem not to have beached their vessels.<sup>132</sup>

However, boats did need to be shoved away from moorings, indicating that although not beached, the vessels were at least occasionally aground when moored. Two men shove off a sailing vessel in the Dynasty XVII tomb of Sobeknakht at el Kab (fig. 8-30). One puts his hand to the bow, the other raises his hands as if to shove the first man's back. This is an example of horizontal expansion: intended to represent two men with their hands on the bow, the scene would be crowded and confused if the two men were shown close together. Therefore the draftsman has put one behind the other, meaning for them to be side-by-side.<sup>133</sup> A man near the bow, bending over with a rope in one hand, is labeled *msw (r)di*: "giving the ropes."<sup>134</sup>

When leaving harbor, men push the ship clear of the shore, even if the sail already billows. In the tomb of Rekhmire,<sup>135</sup> three men aboard a cargo(?) vessel grasp poles with both hands. They apply all their weight to the poles, which bend enormously under this pressure as they put the vessel into deeper water, careful to avoid other vessels arriving or departing.

## THE ABSENCE OF MOORING EQUIPMENT


Moored vessels did not become a popular motif until the New Kingdom. Even after mooring entered the iconographic repertoire in Dynasty VI, draftsmen often failed to depict the stake to which a boat is moored (figs. 1-15, 5-4, 8-15, 8-16, 8-17, 8-18, 8-28). Models rarely include mooring equipment, which may be a matter of accident. Model mooring stakes are small and easily lost. Perhaps they were purposely omitted for magical reasons (they might impede the journey) or more prosaically because, unlike fenders (another small piece of equipment), they had no crew detailed specifically to them.



## NOTES

- <sup>1</sup> Lichtheim 1973-80.2: 149 (Dynasty XIX-XX).
- <sup>2</sup> Faulkner 1973-78.1: 208 (IV.23). Cf. CT 287 (Faulkner 1973-78.1: 215 [IV.38]).
- <sup>3</sup> CT 335 part II (Faulkner 1973-78.1: 261 [IV.292]); cf. BD 17 (Allen 1974: 30).
- <sup>4</sup> Capart 1906: 21.
- <sup>5</sup> CT 182 (Faulkner 1973-78.1: 153 [III.76]).
- <sup>6</sup> CT 658 (Faulkner 1973-78.2: 229 [VI.279]).
- <sup>7</sup> Faulkner 1973-78.3: 7 (VII.14).
- <sup>8</sup> BD 69: "I am Orion, who has reached his land (by) <rowing>" (Allen 1974: 63), BD 15B5: "moored in peace" (Allen 1974: 26).
- <sup>9</sup> BD 15a (Allen 1974: 12).
- <sup>10</sup> Faulkner 1973-78.2: 291 (VI.389). Kine and knots: CT 407 (Faulkner 1973-78.2: 58 [V 212]), CT 408 (Faulkner 1973-78.2: 60 [V 225]).
- <sup>11</sup> Faulkner 1973-78.1: 114 (II 154).
- <sup>12</sup> Faulkner 1973-78.1: 122 (II 178).
- <sup>13</sup> BD 70 (Allen 1974: 63) and BD 31 (*ibid.* 41). Allen (1974: 41) interprets this to mean that the deceased "dies" for the master of the rubrics.
- <sup>14</sup> Allen 1974: 73. Cf. BD 180 (Allen 1974: 191).
- <sup>15</sup> Faulkner 1973-78.2: 147 (VI 104). It is also deified in the Pyramid Texts. Cf. Faulkner 1973-78.2: 147 n. 8.
- <sup>16</sup> Faulkner 1973-78.1: 184 (III.301).

- 17 CT 398 (Faulkner 1973-78.2: 35 [V.149]).
- 18 CT 400 (Faulkner 1973-78.2: 43 [V.168]).
- 19 CT 404 (Faulkner 1973-78.2: 49 [V.189]); cf. CT 405 (Faulkner 1973-78.2: 54 [V.204]), BD 99 (Allen 1974: 80).
- 20 CT 121 (Faulkner 1973-78.2: 121 [VI.38]).
- 21 Faulkner 1962: 106-07, Jones 1988: 215 (VI.33).
- 22 Jones 1988: 213 (VI.26).
- 23 Jones 1988: 220 (VI.65).
- 24 Jones 1988: 222 (VI.78).
- 25 Jones 1988: 198 (III.4).
- 26 Jones 1988: 199 (III.8). For "cleat," see Simpson 1965: 39. This is the term used in the passage that serves as this chapter's epigraph, translated by Lichtheim as "mooring-post."
- 27 Jones 1988: 218 (VI.55).
- 28 Jones 1988: 201 (III.12).
- 29 Jones 1988: 202 (IV.18).
- 30 Jones 1988: 202 (IV.18).
- 31 Blackman and Apted 1914-53.6: pl. XLIII. See here, fig. 6-34.
- 32 Jones 1988: 174 (III.98).
- 33 Jones 1988 157 (III.26).
- 34 Jones 1988: 167 (III.64).
- 35 Jones 1988: 164 (III.54).

36 Jones 1988: 171 (III.86). It is interesting, but likely coincidental, that one of the anchors found at Byblos has on its face an inscription identified as a *ḥfr* sign  (Frost 1979: 149, 147 fig. 3a). This sign is more likely to be a badly-drawn steering-oar (cf. Frost 1979: 148 fig. 3c). Despite Frost's description of the *ḥfr* sign as "oar-shaped" or "paddle-shaped" (1979: 149, 147 caption to fig. 3a), it depicts the heart (or lungs) and windpipe (Gardiner 1957: 465).

37 Jones 1988: 160 (III.38).

38 Jones 1988: 226 (VII.105).

39 Jones 1988: 217 (VI.47); said of *nwh* ropes.

40 Jones 1988: 212 (VI.22).

41 Jones 1988: 212 (VI.23).

42 Jones 1988: 215 (VI.35).


43 Jones 1988: 215 (VI.36).

44 Jones 1988: 215 (VI.36).

45 Jones 1988: 229 (VI.117).

46 Jones 1988: 197 (IV.1).

47 S. Wachsmann has suggested to me (private communication) that perhaps a killick (an anchor comprising a stone in a frame of branches) is meant. Investigation of the contexts in which this term appear is planned.

48 Cf. the hieroglyph , *rs* "be wakeful, diligent," described as "pieces of wood joined and lashed at the joint" (Gardiner 1957: 512). For lashing used in ancient Egyptian joinery, see Sliwa 1975: 49-54.

49 Gardiner 1957: 496.

50 Winlock 1955: 97.

- 51 Susan Allen, personal communication, December 1997.
- 52 Winlock 1955: 76.
- 53 Susan Allen, personal communication, December 1997.
- 54 Simpson 1965: 27, 39, B 23.
- 55 Winlock 1955: 63.
- 56 CT 398 (Faulkner 1973-78.2: 35 [V.149]).
- 57 Davies 1943: pl. LXXX-LXXXI.
- 58 Kemp and O'Connor 1974: fig. 12A.7.
- 59 Knudstad 1966: 177.
- 60 Sliwa 1975: fig. 4.
- 61 Susan Allen, personal communication, December 1997.
- 62 Simpson 1965: 27 B22, p. 39.
- 63 Winlock 1955: 98.
- 64 CT 132, Faulkner 1: 114 (II.154); CT 188, Faulkner 1: 157 (III.95); CT 753, Faulkner 2: 287 (VI.382); CT 875, Faulkner 3: 44 (VII.81). One of Hatshepsut's Punt ships appears to have three bow lines (fig. 8-28).
- 65 Lipke 1984.
- 66 Haldane 1984.
- 67 Glanville 1972: 18 and Landström 1970: 76 (hesitantly).
- 68 Reisner 1913: 1.

<sup>69</sup> Glanville 1972: 22, also used for the sternpost (*ibid.* 19).

<sup>70</sup> Basch 1985: 458-450 figs. 5-7. Basch refers to this as a "bowsprit."

<sup>71</sup> Such a slope is found in architectural stairs as well (Clarke and Engelbach 1990: fig. 210). For a representation of sloped stairs in a house, see Schäfer 1986: 213 fig. 221.

<sup>72</sup> EM 5153-55 (Reisner 1913: 137), Wachsmann 1987: 10. Reisner does not illustrate these ladders, but his description makes their nature clear enough: "Board with notch-like steps on front. Unpainted. Cuts, vertical to length, are sawed."

<sup>73</sup> Wachsmann 1987: 10-11.

<sup>74</sup> Wachsmann 1987: 10-11, pls. IV-V.

<sup>75</sup> Kemp and O'Connor 1974: 106.

<sup>76</sup> Also Newberry n.d.1: pl. XVIII.

<sup>77</sup> Wachsmann 1987: 10.

<sup>78</sup> Boreux 1925: 24.

<sup>79</sup> Vinson 1987: 115.

<sup>80</sup> There are many sources dealing with stone anchors, but for an overview see Wachsmann 1998: 255-94, Wachsmann and Haldane 1997, Galili and Sharvit 1994, and McCaslin 1980.

<sup>81</sup> Wachsmann 1998: 259.

<sup>82</sup> Basch 1985: 457-65. He does not raise this claim again in Basch 1994.

<sup>83</sup> Nibbi 1984: 248-49; Frost 1979: 143-46.

<sup>84</sup> Nibbi 1984: 249-51.

<sup>85</sup> Frost 1979: 147-52.

- 86 Nibbi 1984: 248; Frost 1979: 156-57; McCaslin 1980: 34-35.
- 87 Nibbi 1984: 248; McCaslin 1980: 34-35; Frost 1979: 156-57.
- 88 Nibbi 1992.
- 89 Boreux 1925: 416-17, figs. 177-78.
- 90 Basch 1985: 463. E.g., Moussa and Altenmuller 1971: pl. 16; Verner 1977: pl. 5; Davies 1943: pl. LXI; Davies 1926: pl. XXXI.
- 91 Wachsmann 1998: 258.
- 92 Davies 1902.2: 9.
- 93 Davies 1943: 57, pl. LXI.
- 94 Basch 1985: 454 fig. 1. In Landström 1970: 64 fig. 193, the stone is shown, but the rope hole is omitted from the drawing.
- 95 Landström 1970: 64 fig. 192; Frost 1979: 139 pl. 1; Basch 1985: 455 fig. 2.
- 96 Assman and Nibbi (1997: 47-48 fig. 9), not seeing the hawser hole, believe that the object aboard the ship of Sahure is a "night light or aromatic cone." Once these objects are reconstructed as a structure around which a rope (the purpose of which is unclear) is wound (Baines and Málek 1984: 153).
- 97 Borchardt 1913: 149-50.
- 98 E.g., Frost 1964.
- 99 Nibbi 1984, 1997. See Nibbi 1997 and Basch 1985 for complete bibliographies.
- 100 Basch 1994: 221-22; Basch 1985: 459-60, *contra* Frost 1964: 242, who reports "pin-head" sized holes.
- 101 Basch 1994: 222-23.
- 102 Basch 1994: 223.

- 103 Basch 1994: 223.
- 104 Faulkner 1962: 18. For vessels so-called in the illustrations in this paper, see figs. 1-21 and 7-44.
- 105 Kemp and O'Connor 1974: 128; Hughes 1963: 127-128; Harrell and Bown 1995: 83.
- 106 Harrell and Bown 1995: 83, 85.
- 107 Harrell and Bown 1995: 85-87. See *ibid.* 78-79 for a description of the road.
- 108 Harrell and Bown 1995: 85-89.
- 109 Kemp and O'Connor 1974.
- 110 Kemp and O'Connor 1974: 106.
- 111 Knudstad 1966: fig. 2.
- 112 Knudstad 1966: 174. Ceramic net weights were found at the site.
- 113 Knudstad 1966: 178. Known from a scarab found in a burial some 200 meters from the fortress.
- 114 Kemp and O'Connor 1974: 107.
- 115 Kemp and O'Connor 1974: 106-07.
- 116 For estimations of depth, see Kemp and O'Connor 1974: 126.
- 117 Kemp and O'Connor 1974: 115-20.
- 118 Faulkner 1973-78.1: 208 (IV.23).
- 119 CT 498 (Faulkner 1973-78.2: 137 [VI.80]).
- 120 CT 775 (Faulkner 1973-78.2: 303 [VI.409]).

- 121 CT 464 (Faulkner 1973-78.2: 90 [V.339, 342]); CT 467 (Faulkner 1973-78.2: 95 [V.366]).
- 122 Kemp and O'Connor 1974: 104.
- 123 Lichtheim 1973-80.3: 75.
- 124 Faulkner 1973-78.2: 229 (VI.280).
- 125 On the island of Dorginarti, a flight of steps leads down from the north gate of the fortress to the harbor. See Knudstad 1966: 180-184, fig. 3, pl. XXVI.
- 126 Lichtheim 1973-80.1: 212.
- 127 E.g., CT 182 (Faulkner 1973-78.1: 153 [III.77]), CT 468 (Faulkner 1973-78.2: 99 [V.386]). The stake is driven in "the upper waterways"; cf. CT 904 (Faulkner 1973-78.3: 57 [VII.110]), in which the stake is driven in at "the waterway of Horus."
- 128 Faulkner 1973-78.2: 287 (VI.382).
- 129 In the lower register of fig. 8-29, the pilot turns around and extols the rowers to moor. One of the rowers turns his head about to take notice.
- 130 Davies 1925: pl. XIX.
- 131 Davies 1946: pl. XIII.
- 132 Schulman 1968: 29 n 13.
- 133 Cf. Schäfer 1986: 185.
- 134 Tylor and Clarke 1896: 4.
- 135 Davies 1943: pl. LXI. Cf. the vessel coming into port in Davies 1902.2: 9.



## CHAPTER IX

### WOMEN IN NAUTICAL CONTEXT

I will not walk upside down, for it is Iais who rows me every day.

CT 181<sup>1</sup>

#### GODDESSES AND BOATS

Like gods, goddesses had their sacred barques. The barque of the mother-goddess Mut appears alongside those of Amon-Ra (her husband) and Khonsu (her son) in the nautical procession of the Festival of Opet (fig. 7-2). Goddesses help the deceased take a seat in netherworldly boats such as the "pillared barque,"<sup>2</sup> and lift the sun-god Ra to the solar barque.<sup>3</sup> They protect the deceased in his boat,<sup>4</sup> make announcements while shipboard<sup>5</sup> and help him moor (fig. 8-5).

The goddess Hathor particularly is associated with rowing.<sup>6</sup> As the "Lady of Byblos" (from which Egypt obtained cedar, the preferred wood for shipbuilding) she makes the rudder for the boat used by the deceased in the netherworld.<sup>7</sup>

Like Hathor, Isis is also closely associated with boats.<sup>8</sup> When her son Horus comes to her "boatless" and frightened that his uncle Set will attack him, she soothes: "See [I am(?) a protection] from fear, for I am your mother, I am Isis; I summon the Day-bark(?) which is in the midst of the waters of . . ." <sup>9</sup> Horus replies: "See, I knew your name before I was boatless; come and row me, come and ferry me over, come and bring me to the land at the great city before Re."<sup>10</sup>

He expects Isis to be able to handle the boat she has summoned. Elsewhere in the Coffin Texts, the deceased expects the same of her.<sup>11</sup> Were, however, mortal women expected to do the same?

## FEMININE NAUTICAL TITLES

In his *Glossary of Ancient Egyptian Nautical Titles and Terms*, D. Jones lists no feminine titles,<sup>12</sup> nor does R. A. Gillam in her overview of female administrative positions in the Old Kingdom.<sup>13</sup> G. Robins writes that there are no feminine nautical titles from the Middle Kingdom.<sup>14</sup>

Even the masculine *ḥm-ntr* ("prophet"), encountered in such titles as *ḥm-ntr n wsr-ḥ3t-ḏmn* ("Prophet of the barge *Userhat-Amon*")<sup>15</sup> and *ḥm-ntr n nšmt* ("Prophet of the *neshmet*-barque"),<sup>16</sup> is not attested to in its feminine form, e.g., *ḥm.t-ntr* ("prophetess")<sup>17</sup> of the *neshmet*-barque. Jones does list the title *w'w ḥr(y) ḥ'yw* ("officer in charge of the tackle") as applied to a goddess in a text from Dynasty XX,<sup>18</sup> but it is used in its masculine form.

## FEMALE PASSENGERS

As the Nile was the primary avenue of transportation in Egypt, it is not in the least surprising to see women as passengers aboard boats. Curiously, despite references in literature to passenger-bearing ferries,<sup>19</sup> draftsmen and model-makers neglected this motif. For iconographic sources we must turn to other forms of watercraft, such as cargo vessels and the traveling boats of the elite.

Women of status could enjoy their own boats. The "daughter of the king" Ifi leads her husband's "hedgehog" boat in a papyriform craft of her own (fig. 9-1), while a drummer beats his instrument. Her boat is equipped with a curious structure amidships; this appears to be a mast crutch, consisting of two stanchions with a rope slung between them. Its appearance so far forward on a boat on which is no room for the mast is, from a nautical standpoint, quite inexplicable, made all the more so by the fact that this style of crutch (if this is what the object is) was used aboard the seagoing vessels of Sahure and Unas (fig. 9-2). In another relief, she appears in a smaller papyriform craft, perhaps a large papyrus raft (fig. 9-3).

During the Middle Kingdom, boats with an enclosed cabin occupied exclusively by female passengers appear. In the Beni Hasan tomb of Amenemhat, the boat is a barge, its crew comprising a

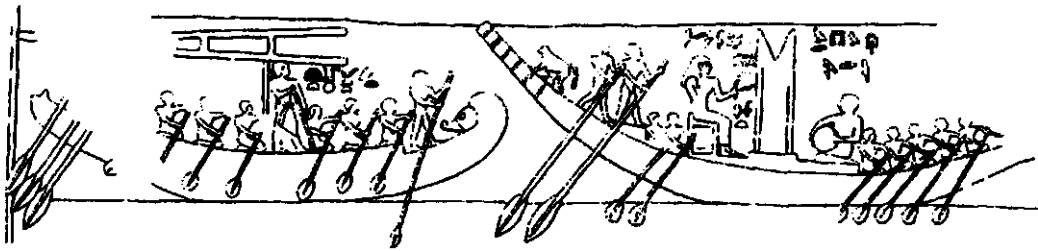


Fig. 9-1. Husband and wife travelling in separate boats. Relief. Hemamiya, Tomb of Ifi. Dynasty V. From MacKay, Harding and Petrie 1925: pl. XXI.

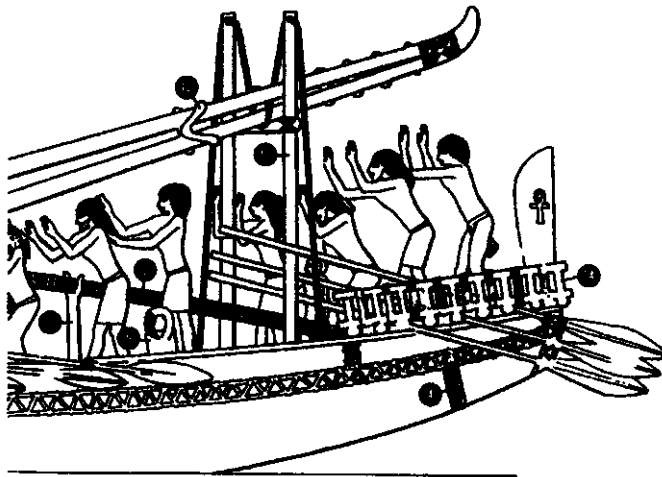


Fig. 9-2. Stern of a seagoing ship. Relief. Saqqara, Causeway of Sahure. Dynasty V (Sahure). Detail from Bjorn Landström, © 1970, *Ships of the Pharaohs*, Garden City, New York: Doubleday, p. 65 fig. 191.



Fig. 9-3. Woman aboard her boat or raft. Relief. Hemamiya, Tomb of Ifi. Dynasty V. From MacKay, Harding and Petrie 1925: pl. XXIV.

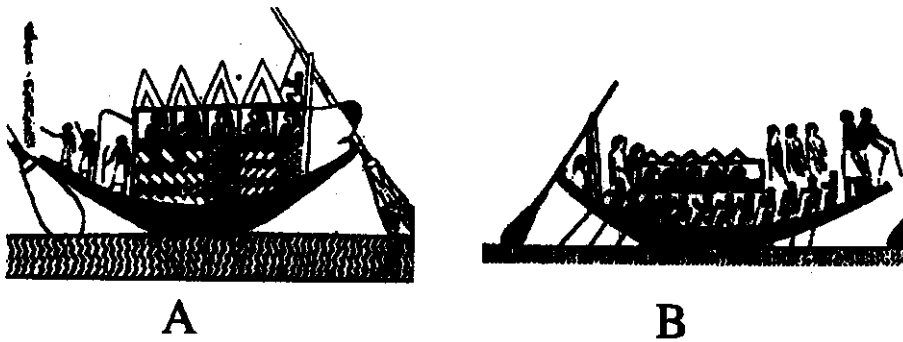


Fig. 9-4. "Harim" vessels. Painting. Beni Hasan. A: Tomb of Amenemhat. Dynasty XII (Senwosret I). From Newberry 1893-94.1: pl. XIV. B: Tomb of Khnumhotep. Dynasty XII (Senwosret II). From Newberry 1893-94.1: pl. XXIX.

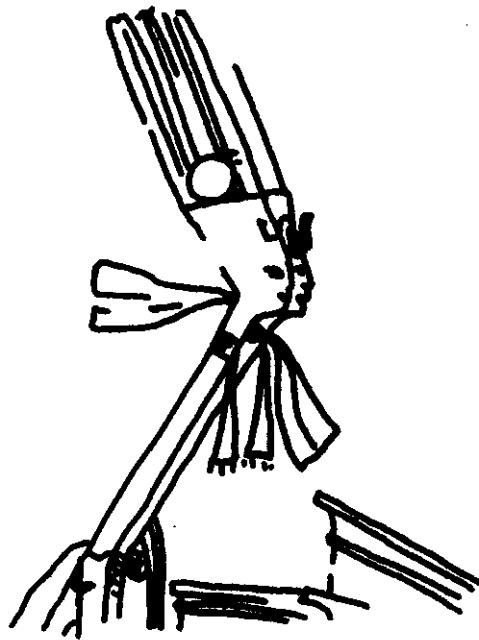


Fig. 9-5. Finials of the looms of quarter rudders, from a boat belonging to Queen Nefertiti. Relief. Amarna. Dynasty XVIII (Akhenaten). After Cooney 1965: 83 fig. 51a.

helmsman and three other men (fig. 9-4.A). Five women appear at "windows" high on the cabin, which is either of woven matting or wood painted in imitation of woven matting. P. Newberry describes this as a "harim vessel."<sup>20</sup> What appear to be windows are probably, as B. Landström suggests,<sup>21</sup> skylights, of which the draftsman had taken advantage to show the occupants. A similar vessel, but with a larger crew of men, including rowers, appears in a later tomb at Beni Hasan, that of Khnumhotep (fig. 9.4.B). Aboard this boat, one of the women stands with a man abaft the cabin. These two passengers are markedly larger than the others, denoting persons of some importance.

Queen Nefertiti's ships are identifiable by steering-oars that, in the tradition of divine barques, have finials in the shape of the queen's head (figs. 5-5, 9-5). Some of these vessels have a decidedly kingly motif decorating the forward baldachin: the queen smiting a female captive.<sup>22</sup>

While depictions of female passengers are limited to the upper class, undoubtedly every day ferryboats served women of every class, and their goods. In a letter of Graeco-Roman date, the man Paniskos bids his wife, Ploutogenia, to join him in Koptos and to bring "ten shearings of wool, six jars of olives, four jars of liquid honey, my shield. . . helmet. . . lances. . . the fitting of the tent. . . all our clothes." He advises her further to "bring your gold ornaments, but do not wear them on the boat."<sup>23</sup> Traveling, even in the company of a retinue such as that which Ploutogenia had, was never without risk.

Female slaves had at least a transitory presence in the dockyards workshops. A letter records an order to transport an "able-bodied" slave-girl from This to the royal residence during the reign of Senwosret I.<sup>24</sup> Ships returned from the Levant with women and children; these appear in the reliefs of the causeway of Sahure, hands raised in praise, sincere or otherwise, of the king who has brought them to Egypt (fig. 9-2).

## FEMALE MOURNERS

A favorite motif in funerary scenes is a crowd of female mourners, often aboard ship as the funeral procession crosses the river to the western bank. They first appear in the Old Kingdom as "kites"; i.e.,



Fig. 9-6. Funerary procession. Painting. TT 49, Dynasty XVIII (Ay?). From Davies 1933.2: pl. XXII.

women representing the goddesses Isis and Nephthys who stand at the foot and head of the bier, respectively, or side-by-side abaft the funerary shrine (figs. 1-6, 4-16, 6-21, 6-24 [a single kite, at the bow], 6-34, 6-38, 6-40, 6-64, 9-6).<sup>25</sup> Sometimes the mourning widow occupies the bow.<sup>26</sup>

By the New Kingdom, the shipboard services of the kites were supplemented by those of professional mourners (fig. 9-6). The mourners occupy the tow-boat in addition to or instead of the barge and interfere with the duties of the crew, who express infinite patience as the women crowd the rowers, displace the pilot, and cramp the helmsman. Draftsmen usually place the mourners on the roof of the cabin, out of the way of the working crew, where their gesticulations and ululations would have the greatest exposure and effect.<sup>27</sup>

## PILGRIMAGES BY WOMEN

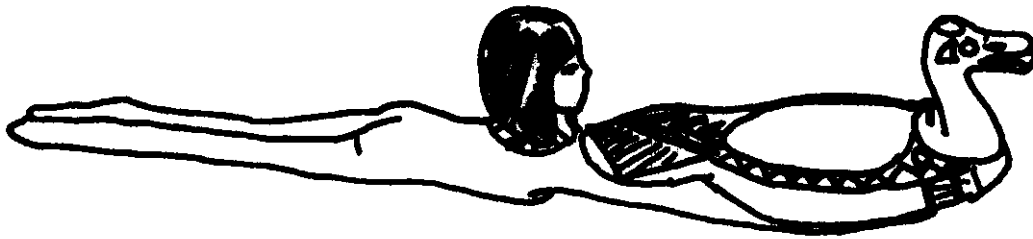
In New Kingdom tomb paintings, a woman makes pilgrimages to Abydos and other holy places aboard her husband's boat (fig. 6-65). Although conceptually seated beside him, she is always presented as if slightly behind her husband, indicating that the boat is, first and foremost, his. Depiction of husband and wife side-by-side aboard what is essentially a funerary barge does not mean that both died and were buried at the same time. In typical Egyptian economy, the funeral scenes of both spouses are combined into one, with that of the husband (who is almost always the tomb-owner) predominant.<sup>28</sup>

## FEMALE SWIMMERS

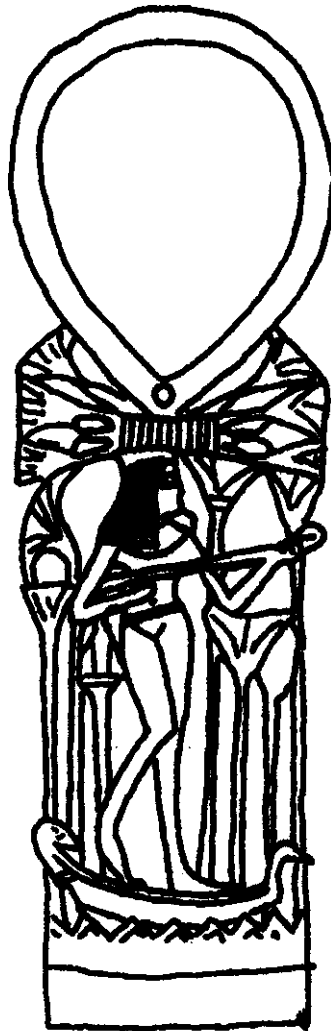
The motif of the swimmer is not popular in Egyptian art, and literary references to swimming are few. The male narrator of a New Kingdom love poem uses swimming as a metaphor to emphasize the depth of his devotion to his beloved:

A river is between our bodies;

The waters are mighty at [flood]-time,



A



B

Fig. 9-7. Cosmetic spoons. Wood. New Kingdom. A: After Woldering 1963: 162 pl. 50. B: After Manniche 1987: 47 fig. 36.



A crocodile waits in the shallows.

I enter the water and brave the waves. . .<sup>29</sup>

In art, the swimming girl has erotic connotations and appears as cosmetic-spoon handles, particularly during Dynasty XVIII (fig. 9-7.A).<sup>30</sup> The girl wears jewelry, such as a necklace<sup>31</sup> or earrings,<sup>32</sup> and hair (her own or a wig) more or less elaborately coiffed, but remains otherwise naked. She stretches her limbs straight and grasps a duck, which forms the lidded bowl of the spoon.

On an ostrakon from Deir el-Medina (Dynasty XX), a draftsman has drawn a more vigorous variation on this motif: kicking her legs, a girl dives into the water, perhaps from a raft. She wears only a rope or bead necklace. Above her flies a duck, an erotic symbol, and below her swims a fish, this having phallic significance.<sup>33</sup>

## WOMEN ABOARD RAFTS

Closely related to the motif of the swimming girl is that of the girl punting a raft. Like the swimming girl, it appears on cosmetic-spoon handles (fig. 9-7.B). Here the girl is a lutist, wearing a collar and belt, her hair long and curled. The raft or boat on which she stands has a duck head at stem and stern, and the lute is duck-headed, these being sexual references.<sup>34</sup> These motives are closely related to the girl papyrus-gatherer, the girl lutist, and the girl with flowers and ducks, also seen as cosmetic spoon handles.<sup>35</sup>

Not every example of this motif is foremostly of a personally erotic nature. In the tomb of Queen Mersyankh (fig. 9-8), Mersyankh and her mother, Hetepheres, gather papyrus "for Hathor" and "see every good thing which is in the marsh."<sup>36</sup> In a relief from Dynasty IV the woman Hetepet stands in a papyrus raft being poled by a man, while a servant girl offers her drink and another kneels beside her (singing?).<sup>37</sup> In a more abstracted scene (carved openwork as a chair back), Princess Sitamon offers lotus blossoms to her mother, Queen Tiy, chief wife of Amenhotep III (Dynasty XVIII), aboard a papyrus raft.<sup>38</sup>

In vignettes of the Book of the Dead, a woman may paddle her netherworldly raft or boat just as



Fig. 9-8. Queen Mersyankh and her mother Hetepheres gathering papyrus. Relief. Saqqara, Tomb of Mersyankh. Dynasty IV (Khufu - Shepseskaf). From Dunham and Simpson 1974: fig. 4.

well as her male counterpart (fig. 7-58).

## WOMEN ACCOMPANYING MEN ON BUSINESS

Wives and children of workmen sometimes accompanied their husbands and fathers on business and shared the dangers of the river. In the Dynasty XII didactic text "The Dispute between a Man and His *Ba*," a farmer witnesses an oncoming storm aboard a crop-laden boat with his wife and children, who subsequently drown.<sup>39</sup>

Few reliefs or paintings illustrate such scenes, and most are from the Old Kingdom. Seated atop a cabin or at the stern of small cargo boats, women nurse their children (fig. 9-9). Although women accompany men in depictions of ritualistic hunting and fishing throughout the Dynastic Period, after the Old Kingdom they all but disappear from Egyptian working boats. In TT 143, a tomb dating to Dynasty XVIII, a crew of four Puntite men handle a craft<sup>40</sup> accompanied by a woman suckling her child (fig. 9-10).

Depictions of upper-class women accompanying their husbands are likewise uncommon (cf. fig. 9-1). In an Old Kingdom scene, the official Nekhebu occupies an open cabin on a towed traveling barge. A female harpist kneels before him. H. G. Fischer indicates that she is very likely Nekhebu's wife (fig. 9-11).<sup>41</sup>

## FISHERWOMEN AND FEMALE FOWLERS

Wives and children accompany husbands on ritual or recreational outings to fish and fowl in the marsh, or (in the New Kingdom) to hunt hippopotamus. In the last pursuit, the wife or daughter never plays an active role, but sits or stands while the man, aided by a son or servant, harpoons the beast.<sup>42</sup> In scenes of fishing and fowling, however, women interact in some way with the goings-on.

As early as the Old Kingdom<sup>43</sup> women in these ritualistic scenes grasp waterfowl presumably brought down by their husbands' or fathers' throwing-sticks or point to the game (fig. 9-12). In the less

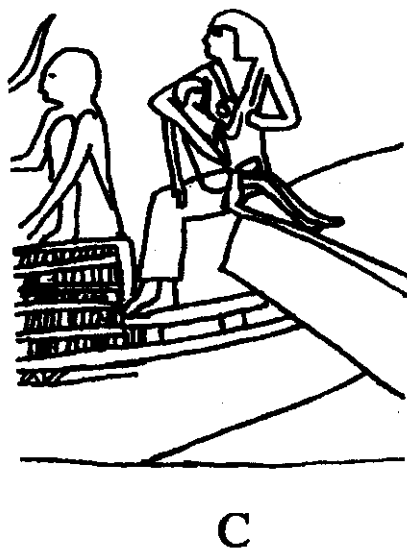
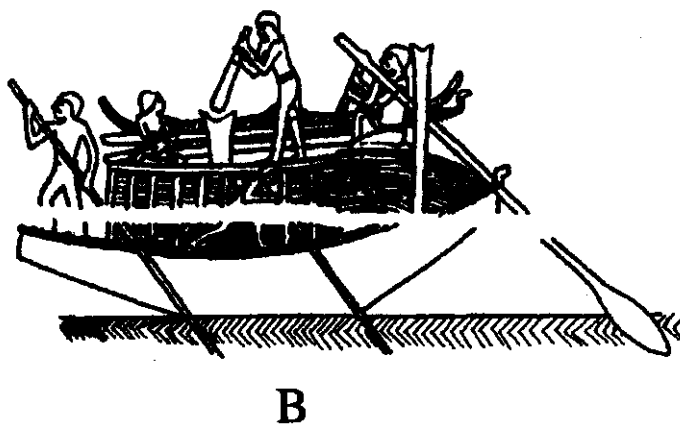
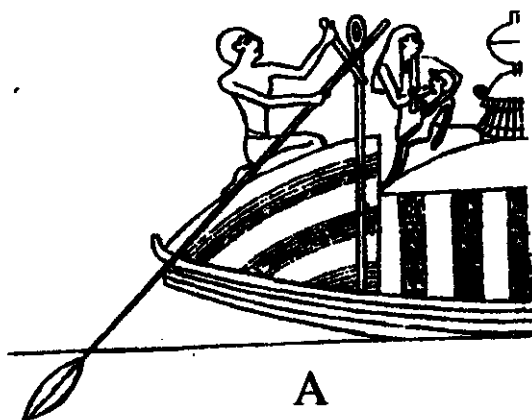


Fig. 9-9. Women nursing children aboard boats. Relief. Saqqara. A: Tomb of Ptahhotep. Mid-Late Dynasty V. After Lepsius 1849-59.3: pl. 104. B: Tomb of Ipy. Dynasty VI. After Vandier 1979.2: pl. XXXIX fig. 103. C: Tomb of Kagemni. Dynasty VI. After Vandier 1969.2: pl. XXXVIII fig. 295, 1.

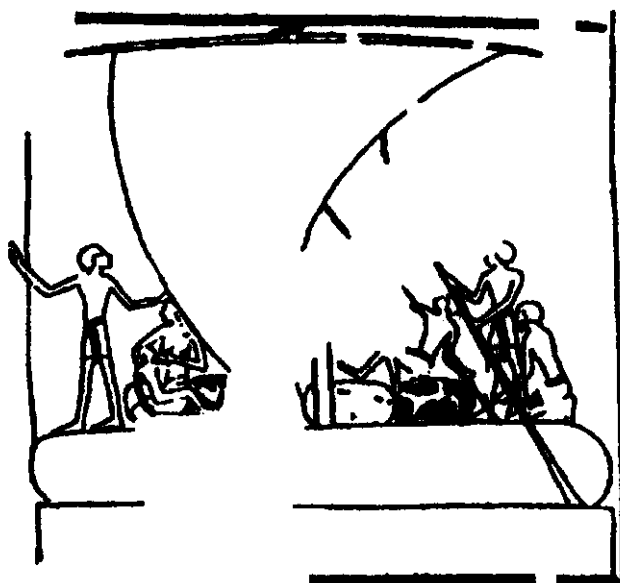


Fig. 9-10. Puntite watercraft. TT 143. Dynasty XVIII (Tuthmosis III to Amenophis II?). After Säv-Söderbergh 1946: 24 fig. 6.



Fig. 9-11. Female harpist aboard a boat (MFA 13.4349). Relief. Old Kingdom. After Fischer 1989: pl. X fig. 12.

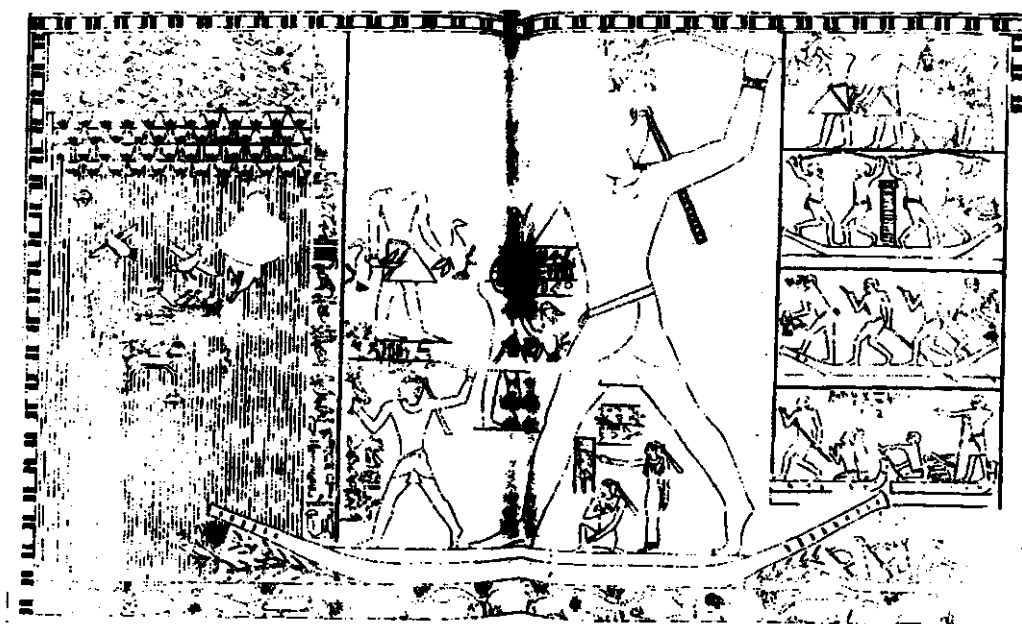


Fig. 9-12. Fowling scene. Relief. Deir el-Gebrawi, Tomb of Ibi. Dynasty VI. From Davies 1902.2: pl. V.

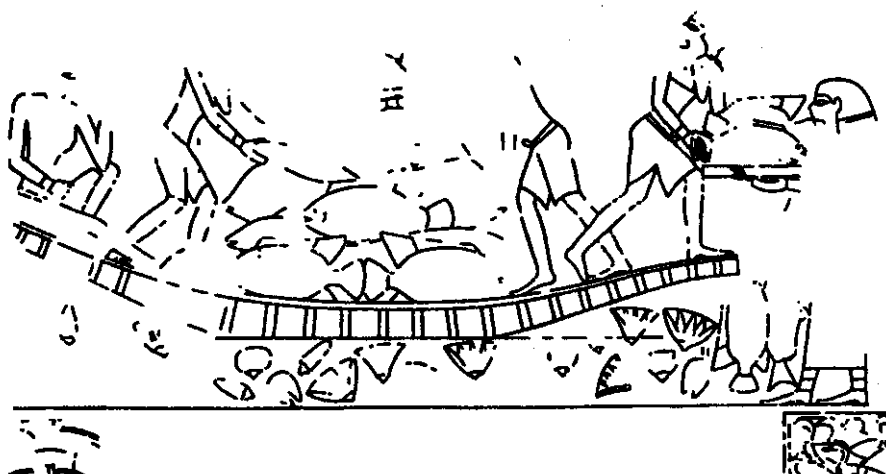


Fig. 9-13. Fisherwomen. Painting. Meir, Tomb of Ukhotep. Dynasty XII. From Blackman and Apton 1914-53.6: pl. XI.

ritualistic, but symbolically identical, model Sporting Boat X from the Dynasty XI tomb of Meketre, the modelmakers have placed a woman among the crew.<sup>44</sup> Her role in the activities is unclear. She presents Meketre with a duck, while the man behind her presents a string of coots. Whether she played some part in catching any of the birds is unknown. The model reflects the fowling scene in fig. 7-34.

Despite lack of an Egyptian word for "fisherwoman," in one tomb a gang of women, dressed as men, is depicted fishing with a net (fig. 9-13). In other registers in this scene, women engage in other traditionally male occupations: fowling, unloading goods from rafts, and herding cattle. The tomb-owner, Ukhhotep, was high priest of the goddess of love and fertility, Hathor, and Blackman suggests this as the explanation for the startling predominance of women in these scenes.<sup>45</sup> D. J. Brewer and R. F. Friedman propose that the women perform these duties for Ukhhotep's amusement.<sup>46</sup> Although fisherwomen are not otherwise attested to in iconography or texts, princesses did accompany a Dynasty XII king, probably Amenemhat II, on a recreational fishing trip.<sup>47</sup>

## WOMEN ENGAGED IN DOMESTIC OCCUPATIONS SHIPBOARD

Women in pharaonic Egypt had several modes of employment open to them beyond that of mistress of the house. In addition to the obvious professions of midwifery and nursing, women played important roles in spinning, weaving, music, dance, brewing, baking and milling.<sup>48</sup> It is the last occupation that brings them shipboard in artistic representations.

Among the model boats of Meketre (Dynasty XI) are two "kitchen tenders," designated R and S. Kitchen Tender R is equipped for sailing, S for rowing. Thus these two vessels are prepared to travel upstream and downstream, respectively, paired with sailing Yacht T and rowing Yacht U. The hulls of the kitchen tenders are identical: equipped with an axial rudder and a light cabin forward of the rudder stanchion, in which the kitchen duties take place. Tender S is rowed by four men; the sail of R is missing.

The cabins of the boats on which this model was based would have been made of reeds over a

wooden frame. The cabin of R was additionally fitted with shield-shaped cattle hides that covered vent holes and were rolled back or removed when the cooking-fire was lit. Aboard Kitchen Tender R, a stanchion is set up forward of the cabin; rope is strung between this and the steering-oar stanchion, so that meat can be hung. The vessels are not otherwise specially adapted for use as kitchen tenders. Cooking brazier and oven sit on the deck, as do the fermenting jug (for beer) and mills.

Two women aboard Tender S grind grain with mills that are smaller than those of Meketre's model bakery and brewery. In the bakery, a mill consists of a large stone slab. Aboard ship, the mills are raised on legs, rather like a table, to facilitate moving them about the deck. Also, each mill is worked by a single woman, whereas in the bakery two women work at one.<sup>49</sup> Milling aboard ship is not a provenance exclusive to women; in fig. 9-9, a man grinds with a large mortar and pestal.

In TT 57, the tomb of Khaemhet, two women appear aboard ships bringing supplies for the jubilee of Amenhotep III (fig. 8-16). Each emerges from a cabin with an arm outstretched. In the lower register, the woman seems to gesture to the pilot at the bow. The woman in the upper register holds a small loaf of bread (or a scented cone?) in her other hand. A man (in another boat?) reaches forward as if to take something from her outstretched hand, or perhaps to place something in it. These women may be bakers, but this is far from certain. They could be passengers, prostitutes brought aboard for business (cf. below,) or even personnel in charge of the ship's provisions.

## FEMALE PUNTERS

One of the calcite jars from the tomb of Tutankhamen (Dynasty XVIII) is in the form of an ibex-headed boat with a sarcophagus or cabin amidships (fig. 9-14). At the bow sits Princess Mutnedjmet. At the stern stands a female dwarf, wielding a long pole. C. Desroches-Noblecourt writes that she is "testing the depth of the water,"<sup>50</sup> but this would be performed at the bow. The dwarf is punting the boat.





Fig. 9-14. "Centerpiece" in the form of a boat. Calcite, horn, and other materials. Thebes, Tomb of Tutankhamen. Dynasty XVIII (Tutankhamen). After Reeves 1990: 199.

## FEMALE ROWERS

Women paddle rafts or boats in vignettes from the Book of the Dead, and goddesses, particularly Isis and Hathor, are associated with rowing. In literature, women row in a non-divine or non-funerary context only once, in the well-known tale from Papyrus Westcar known as "The Boating Party." The papyrus is from the Second Intermediate Period, but the text itself is of Middle Kingdom date and purports to recount events from Dynasty IV. In it, the bored King Sneferu seeks a source of distraction from his chief lector-priest Djadjamankh. Djadjamankh suggests that the king "fill a boat with all the beautiful girls of your palace. Your majesty's heart will be refreshed by seeing them row, a rowing up and down."<sup>51</sup>

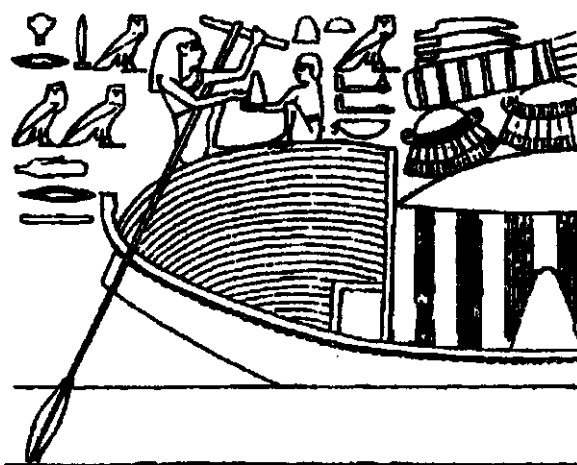
So Sneferu orders elaborate oars and costumes for this nautical fancy:

... twenty oars of ebony plated with gold, their handles (*sic*) of sandalwood plated with electrum. ... twenty women with the shapeliest bodies, breasts, and braids, who have not yet given birth. Also... twenty nets and give these nets to these women in place of their clothes!<sup>52</sup>

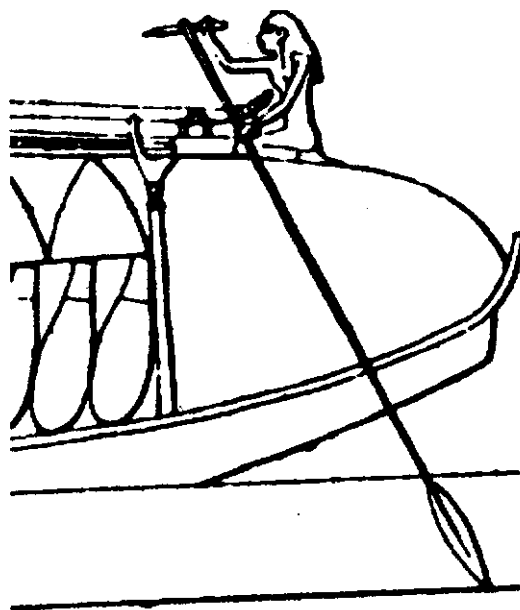
All goes well, and the king is pleased, until the stroke-oar (called, like her male counterpart, *štyt*) loses a pendant and refuses to continue. Despite the king's offer to replace it, she demands her old one. Djadjamankh parts the water with magic, retrieves the pendant and is justly rewarded for his deed. The tale does not relate the fate of the oarswomen.

## HELMSWOMEN

G. Robins writes that although women traveled by boat in pharaonic Egypt, "being part of a boat's crew was not a job usually open to them, unless they were 'harim' ladies, dressed in fish nets, commandeered to entertain a bored king."<sup>53</sup> However, there is evidence of women acting as boat crew from the Old, Middle and New Kingdoms.



A



B

Fig. 9-15. Helmswomen. Relief. Saqqara. Tomb of Ptahhotep. Mid-Late Dynasty V. A: After Lepsius 1849-59.4: pl. 104b. B: After Lepsius 1849-59.4: pl. 103b.

In two reliefs from the tomb of Ptahhotep at Saqqara (mid-late Dynasty V; fig. 9-15), women steer boats. In each case the boat is a typical cargo vessel with a steering oar (with tiller) mounted at the quarter. The helmswoman sits as her male counterpart does, on the roof of a reed cabin. Two pairs of oarsmen row each boat, and in fig. 9-15.B, a bipedal mast lies dismantled atop the cabin (for the entire scenes, see figs 7-40, 7-62).

In fig. 9-15.A the helmswoman removes her hand from the loom of the steering-oar to accept a loaf of bread offered by a boy. She says to him, "Give bread (with) thy arm, (but) don't obstruct my face with it while I am putting to shore."<sup>54</sup> In both scenes, each woman wears the typical female garment of the time: a sleeveless sheath dress, in this case also strapless and exposing the breasts. The woman in fig. 9-15.A wears a bead collar (cf. fig. 9-9.A, also from this tomb).

Fischer refers to these as "exceptional cases."<sup>55</sup> There appear to be no other depictions of helmswomen and no literary references to them at all.

## TOPWOMEN

More surprising than female rowers and helmswomen is the depiction of women working sails.

The first is an Amarna Period relief (fig. 9-16), the unusual features of which have prompted S. Vinson to admit the potential for skepticism as to its authenticity.<sup>56</sup> The boat appears to be a small craft, likely recreational on account of its small size. Its rudder is fitted to a stanchion; the helmsman squats behind the stanchion, holding the tiller with both hands. Within a triangular structure, for which I can find no parallel, sits a man on a three-legged stool. His right hand is laid, palm down, on his lap. His left hand appears to grasp the structure. The mast is supported by what appears to be a tabernacle. Unlike other Egyptian sails from this period, this one has no boom, being instead loose-footed. As Vinson has pointed out, the sail is trimmed for tacking.<sup>57</sup>

Although androgynous figures are commonplace in art of the Amarna Period, there can be no mistaking the figure working this sail for anything but a girl or young woman. She handles the rigging

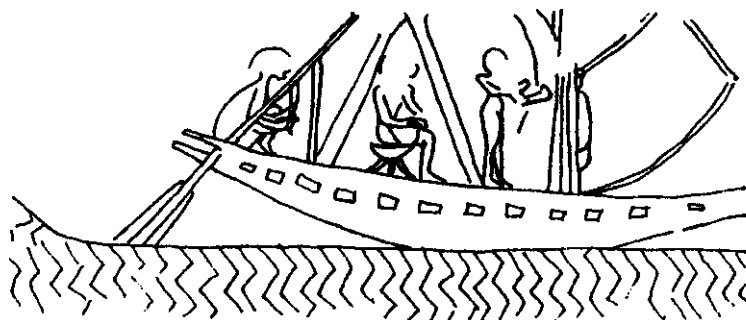


Fig. 9-16. Small sailing boat. Relief. Amarna. Dynasty XVIII (Akhenaten). After Vinson 1993: 135 fig. 2a.

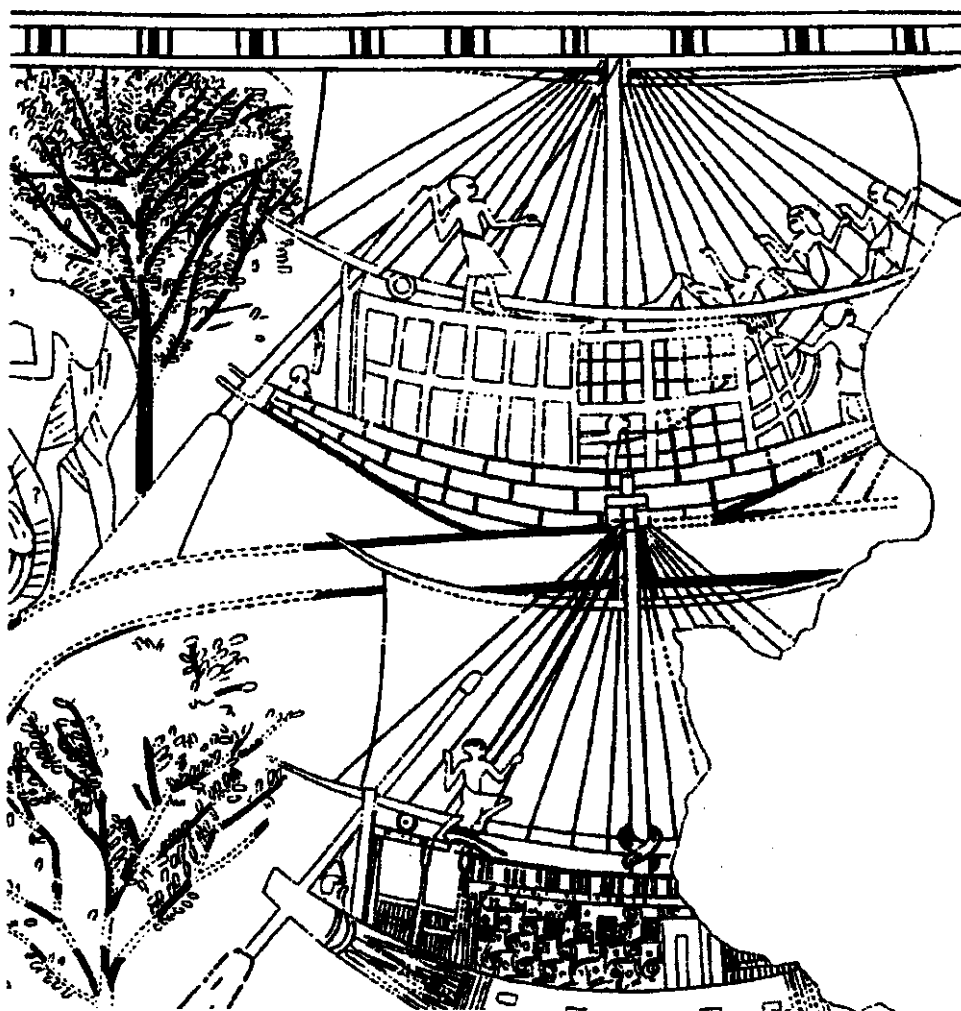


Fig. 9-17. Sailing ships coming into port. Painting. TT 49. Dynasty XVIII (Ay?). From Davies 1933.2: pl. XLIII.

with both hands but is not a vigorous figure: she stands solidly upon the deck, static, in contrast to the trimmed sail, which indicates the motion of the boat.

Not quite so extraordinary in subject-matter is a painting from TT 49, the tomb of Neferhotep (fig. 9-17). This dates perhaps slightly later than the previous scene; Neferhotep was "Chief Scribe of Amon" during the reign of Ay (Dynasty XVIII). It illustrates the estate of Amon, including canals and the artificial harbor before the temple. Four sailing vessels approach this harbor; the two nearest their destination appear in fig. 8-8, the other two, of particular concern here, are in fig. 9-17. The upper two ships carry cargo; their hulls are undecorated and the planks that make up each strake are plainly shown. The lower two vessels have accommodations for passengers, probably of high rank, and are fancily decorated.

The crews prepare to moor. The pilot of the first cargo ship (fig. 8-8) calls out soundings to the helmsman and topmen, who sit or stand on the boom, ready to furl the sail. The pilot aboard the second cargo ship (fig. 9-17) has not yet begun to call his orders. However, the helmsman has removed his hands from the tiller, and another man on the cabin roof directs the activities of three figures who sit or stand on the boom. One of these figures, crouching on the boom and grasping a lift with each hand, is a woman.

Norman Davies wrote of this scene: "A crew of five suffices, but the captain's wife seems to be carried as well. These persons are shown clambering about the lower yard, but their proper place is on top of the cabin."<sup>58</sup>

In fact the topmen's proper place is not atop the cabin, but on the boom (fig. 9-17, lower register). Nor is there any reason to place a "captain's wife" on either boom or cabin if she were not a working member of the crew. There is more than enough room for the draftsman to have positioned her atop the cabin or on the deck, if he chose. Moreover, the only passengers carried on the roof of a cabin on this kind of ship are musicians playing in festival,<sup>59</sup> mourners (fig. 9-6) and captives (fig. 4-10).

Was this woman a working member of the crew, or did the draftsman place her there to make some social comment or to add a bit of humor to the scene? While draftsmen did populate the rigging with a variety of animals from time to time<sup>60</sup> and a draftsman at Deir e-Medina evidently delighted in

putting a queen or goddess against the king in a sketch,<sup>61</sup> the presence of a small figure that Vinson suggests may be a boy, rather than a man,<sup>62</sup> at the helm may indicate that this is a family venture, not unlike that of the farmer whose family drowned in a storm, mentioned above.

## WOMEN IN DOCKYARDS AND HARBORS

Women do not appear in scenes of shipbuilding, and participate only peripherally in dockyard scenes, as bystanders bidding their fathers or husbands farewell on his journey,<sup>63</sup> merchants selling their wares (fig. 8-17), or prostitutes wearing scented cones on their head and bartering their services in exchange for the sailors' goods (fig. 9-18).<sup>64</sup> Aside from the "able-bodied" servant-girl ordered to be transported from the dockyard workshop,<sup>65</sup> dockyard records make no mention of women.

A stela from Gebelein, belonging to a soldier named Qedes, does, however, provide evidence that a woman could influence the construction or acquisition of ships. In recounting his accomplishments, Qedes says:

I acquired oxen and goats. I acquired granaries of Upper Egyptian barley. I acquired title to a [great] field. I made a boat of 30 (cubits) and a small boat that ferried the boatless in the inundation season.<sup>66</sup> I acquired these in the household of my father Iti; (but) it was my mother Ibeb who acquired them for me.<sup>67</sup>

The means by which she acquired the boats for Qedes is, most regrettably, not specified, but women were active in economic spheres beyond the immediate confines of the house: they could market goods and make purchases of goods as varied as slaves<sup>68</sup> and funerary stelae,<sup>69</sup> so mention of a woman acquiring boats should come as little surprise. Apparently acting on behalf of their husbands,<sup>70</sup> women regularly received cargos from boats. During year 6 of the Renaissance (Dynasty XX) one of them working on behalf of the Estate of Amon United-With-Eternity and other Theban institutions, Hemuttawi, found herself cheated by the deliverymen.<sup>71</sup>

During Dynasty XII, a "servant of the estate," Irysu, wrote to the chamberlain Sikaunu regarding



Fig. 9-18. Sailors exchanging goods for the services of prostitutes? Painting. TT 217. Dynasty XIX (Rameses II). From Davies 1927: pl. XXX.



some business between them. Sikaiunu had gone upriver with three corvée laborers; Irysu was to send him grain and other goods from the town of Hutnebes, consigned to a foreman named Henar. Henar left with only part of the cargo. Upon his return to Hutnebes, Irysu had to send him south again with the rest.

Of particular interest is the matter of Henar's premature first trip. In his letter, Irysu explains what happened:

I then sent to you [Sikaiunu] the foreman Henar in the boat that I found at the quay of Hutnebes, and I caused him to bring you cargo. Since this boat was sent down by the woman Baket when it was already loaded, I couldn't have him bring you further goods.<sup>72</sup>

The need for a second trip elicits no worry from Irysu. The tone of the letter is direct and businesslike, apparently mentioning nothing considered unusual by Irysu or (it may be presumed) by Sikaiunu. Baket's role is not presented as being exceptional; she receives no blame for her apparent haste. All is treated as if she was simply doing her job by overseeing or ordering the departure of a cargo boat. Henuttawy, the woman whom the deliverymen cheated, performed a similar task, dispatching a "boat . . . loaded [with] salt."<sup>73</sup>


Whether or not Baket accompanied Henar is not known. Another letter, also from the Middle Kingdom, states:

It was Kay's daughter [...] -senet and Kay's son Nefer-the-scribe who fetched it (missing rations) in that barge (ws/x).<sup>74</sup> If they [have not come?] then you should fetch it again.<sup>75</sup>

Here, unambiguously, is a woman working in some capacity aboard a boat. Of additional significance is the fact that she is named before her brother, indicating that she was principally responsible in this transaction. Given that women could act in the stead of their husbands when necessary, even in the performance of official duties, it is not so far a reach to conclude that they could have the capacity to act in positions of authority with regard to nautical matters as well.

## NOTES

- <sup>1</sup> Faulkner 1973-78.1: 152 (III.75).
- <sup>2</sup> CT 241 (Faulkner 1973-78.1: 189 [III.324-325]).
- <sup>3</sup> CT 332 (Faulkner 1973-78.1: 257 [IV.178]).
- <sup>4</sup> CT 320 (Faulkner 1973-78.1: 248 [IV.144]). Perhaps cf. CT 817: "I will be in the bow of the Bark as mistress of the flame" (Faulkner 1973-78.3: 8 [VII.16]).
- <sup>5</sup> CT 239 (Faulkner 1973-78.1: 188 [III.320]).
- <sup>6</sup> CT 332: "mistress of the oar in the Bark of Governance. . . I am Hathor" (Faulkner 1973-78.1: 256 [IV.177]); CT 545: "many of rowings in Dendera" (Faulkner 1973-78.2: 160 [VI.139]); CT 623: "I will ply my oar in those happy monthly festivals of yours (i.e., Hathor's)" (Faulkner 1973-78.2: 206-07 [VI.239]); CT 753: deceased rows Hathor (Faulkner 1973-78.2: 287 [VI.382]).
- <sup>7</sup> CT 61 (Faulkner 1973-78.1: 58 (I.262)).
- <sup>8</sup> CT 182: "O you who travel in the sky, I will row him with you, I will travel as Isis, for I am he who will <bring> this to him" (Faulkner 1973-78.1: 153 [III 77]). Cf. CT 728: "the Great Lady. . . ferries across in it in this her name of 'Two-weave cloth'" (Faulkner 1973-78.2: 277 [VI 358]).
- <sup>9</sup> CT 775 (Faulkner 1973-78.2: 303 [VI 408-09]).
- <sup>10</sup> CT 775 (Faulkner 1973-78.2: 303 [VI 409]).
- <sup>11</sup> CT 181: "I will not walk upside down, for it is Isis who rows me every day" (Faulkner 1973-78.1: 152 [III 75]); CT 182: "O you who travel in the sky, I will row him with you, I will travel as Isis, for I am he who will <bring> this to him" (Faulkner 1973-78.1: 153 [III 77]).
- <sup>12</sup> Jones 1988: 49-123.
- <sup>13</sup> Gillam 1995: 213-214.
- <sup>14</sup> Robins 1993: 120.

- 15 Jones 1988: 85 I.a.143.
- 16 Jones 1988: 85 I.a.144.
- 17 Usually translated "priestess." See Gillam 1995: 211.
- 18 Jones 1988: 74 I.a.104.
- 19 E.g., Lichtheim 1973-80.2: 17, 18, 161-62, 189, 201, 217-18; Lichtheim 1973-80.3: 55; Lewis 1976: 8; CT 132 (Faulkner 1973-78.1: 114), CT 136 (Faulkner 1973-78.1: 117), CT 144 (Faulkner 1973-78.1: 122-23), CT 218 (Faulkner 1973-78.1: 173), CT 343-344 (Faulkner 1973-78.1: 277-79), CT 397-408 (Faulkner 1973-78.2: 25-60). Examples from the CT and BD are too numerous to list in their entirety.
- 20 Newberry 1893-94.1: 33.
- 21 Landström 1970: 83. Similar structures are seen aboard a traveling boat in the Dynasty XVIII tomb of Menena (TT 69; Wreszinski 1988: pl. 232); these however, are explicitly in the form of the Upper Egyptian Shrine .
- 22 Redford 1984: 78-79. See Cooney 1965:81 no. 50.
- 23 Winter n.d.
- 24 Simpson 1965: 21; Wente 1990: 43.
- 25 Models: EM 4811 (Reisner 1913: 17-18), EM 4915 (Reisner 1913: 71), EM 4917 (Reisner 1913: 73), BM 9524 (Glanville 1972: 12), BM 9525 (Glanville 1972: 16). For a Meroitic painting of a model boat with kites, see Werbrouck 1938: 88 fig. 51.
- 26 Davies 1925: pl. XXIV.
- 27 Davies 1925: pl. XXIV, XIX.
- 28 For a discussion of this relationship, see Robins 1994.
- 29 Lichtheim 1973-80.2: 193.

30 Sabbahy 1985: 45.

31 Woldering 1963: pl. 50, Sabbahy 1985: 45, no. 24.

32 James and Davies 1983: 39 fig. 46.

33 Manniche 1987: 40, 88 fig. 68.

34 Manniche 1987: 40.

35 Capart n.d.: pl. LXIII. Also here is a lutist in a boat or raft with duck heads at stern and stern. Likewise of this class is a Late Period cosmetic spoon whose handle depicts two dwarfs punting a raft through a swamp, with a calf reclining amidships (Sabbahy 1985: 44 no. 23). Although its erotic significance is not immediately apparent, it could be that the calf symbolizes the goddess Hathor (or perhaps the sun-god Ra; cf. Bianchi 1980: 137). Dwarves are also seen in erotic contexts, as for example the bandy-legged dwarf god Bes (cf. Manniche 1987: 35).

36 Dunham and Simpson 1974: 10.

37 Wreszinski 1988.1: pl. 376.

38 Desroches-Noblecourt 1976: 118 fig. 59.

39 Lichtheim 1973-80.1: 165.

40 Bradbury (1996: 39-42) suggests that this is a *kelek*.

41 Fischer 1989: 8.

42 Säve-Söderbergh 1953: 10.

43 E.g., Fischer 1989: fig. 9.

44 Winlock 1955: 66, pls. 51, 53.

45 Blackman and Apted 1914-53.6: 15.

46 Brewer and Friedman 1989: 15. Cf. Bashaw Hamet's plans for his women, n. 51 below.

47 Brewer and Friedman 1989: 15.

48 Robins 1993: 117.

49 Winlock 1955: 59.

50 Desroches-Noblecourt 1976: 299.

51 Lichtheim 1973-80.1: 216. The luxury of being entertained by royal female rowers was not unique to Egypt nor to the third millenium B.C.E. In 1727 C.E., Captain Braithwaite reported that Bashaw Hamet had in one of his country homes a canal that "was to be walled in, and he intended to have Boats upon it for his Women to fish and row about in; from whence they could not be seen but by himself in his Banqueting-house" (Braithwaite 1969: 78).

52 Lichtheim 1973-80.1: 216.

53 Robins 1993: 120.

54 Fischer 1989: 20.

55 Fischer 1989: 20.

56 Vinson 1993: 135 n. 9.

57 Vinson 1993: 135 n. 9.

58 Davies 1933.1: 33.

59 Epigraphic Survey 1979: pl. 23.

60 E.g., Vandier 1969.1: 791 fig. 305, 2, 798 fig. 308; Davies 1902.2: pl. XIX; Petrie 1952: pl. XVII.2, 6.

61 Pomerantseva 1992: 519 fig. 3.

62 Cf. Vinson 1996: 84.

63 Davies 1926: pl. XI.

<sup>64</sup> Davies 1927: 57; Wachsmann 1998: 313.

<sup>65</sup> Simpson 1965: 21; Wente 1990: 43.

<sup>66</sup> Cf. BD 125: "I have given bread to the hungry, water to the thirsty, clothing to the naked, a ferryboat to the boatless" (Allen 1974: 99). Cf. also Horus and Isis, above, pp. 2-3. For a discussion of this literary motif, see Cruz-Uribe 1986.

<sup>67</sup> Lichtheim 1973-80.1: 90.

<sup>68</sup> Robins 1993: 104-06.

<sup>69</sup> Robins 1994b: 36.

<sup>70</sup> Robins 1993:124-25, Sweeney 1994: 208-09.

<sup>71</sup> Late Ramesside Letter 37 (Wente 1990: 174-75, Sweeney 1994).

<sup>72</sup> Wente 1990: 80.

<sup>73</sup> Wente 1990: 175.

<sup>74</sup> James 1962: pl. 24, 24A; Jones 1988: 135 II.24. In Ramesside times, the *wsjt* (or *wsj*, "broad ship") was the largest of the grain carriers (Vinson 1997: 35, 262 table 1), but this is the word used for the presumably small boat in which Sinuhe flees (see chapter VI, n. 163).

<sup>75</sup> James 1962: 90.

## CHAPTER X

### CONCLUSIONS

The limits of art are not reached,

No artist's skills are perfect.

Instruction of Ptahhotep, I, 50<sup>1</sup>

The Nile and its banks gave the Egyptians the grain for their bread, fish and meat for their tables, mud and reed for their shelters, a highway for their boats. On the back of the Nile moved massive blocks of stone, chiseled from one mountain to be raised as another, and the might of the king traveled upriver, down river, and overseas. There were fishing boats, boats for transporting cattle, boats for shipping grain, ferries, skiffs, warships, boats with cabins and boats without, boats provided with kitchens and boats without, boats that could travel past the cataracts, and boats that could not. It is little wonder that among the earliest images created by the ancient cultures that grew along the banks of the Nile one finds images of boats and, ultimately, the richest nautical iconographic legacy of the Chalcolithic and Bronze Ages.


There was, in the end, likely no Egyptian who did not owe some facet of his life to a boat, ship, or papyrus raft. In pharaonic times, a boat provided salvation in the netherworld and, even into modern, Muslim times, a boat ferried gods and saints.<sup>2</sup> Deliberate archaisms were retained to evoke the prototypical watercraft, the papyrus raft, in hull form and propulsion (paddling). More recent but still obsolete inventions, such as the Old Kingdom style of rudder stanchion with the stock lashed to the side, which appear primarily on funerary boats during the Middle and New Kingdoms, demonstrate that the Egyptians had some level of awareness of their nautical history.

Literature teems with nautical metaphors. When someone died, he moored. The king was the rudder of Egypt, and gods were helmsmen of the weak. To provide a boat for the boatless was a proverbial demonstration of charity. Even the scribe who held all other professions in contempt wrote that books were "like a boat on water."<sup>3</sup>

Draftsmen, sculptors and woodcarvers saw these boats nearly every day. Even the artisans of Deir el-Medina, a desert town in the Theban hills, depended on boats to bring their wages from the south.<sup>4</sup> These men, artisans of the Theban tombs, were professionals, masters of their crafts and media, often

displaying a talent for catching fleeing details of everyday life.

However, the Egyptian draftsman drew not what he saw, but instead what he knew, and did so in highly conventional ways. Even beyond such obviously ideographic elements such as the king's might expressed as the head of a lion devouring a foreigner (fig. 1-17), Egyptian art is to be actively "read" rather than passively perceived. It is the "reading" of the iconography, through the gauze of lacunae and errors, that presents challenges for the iconographist hoping to reconstruct ancient Egyptian watercraft, their crews, and the circumstances in which they worked.

The artist's ideal had no place for the muck of the swamps, nor for steep riverbanks. In paintings and reliefs the Nile is forever placid, its shores accessible and flat. The rough hill-country in which the hunter pursues his quarry does not extend down to the bank; apart from the threatening crocodile or hippopotamus, the land along the Nile is cultivated and civilized. It is no coincidence that one of the hieroglyphs for *mꜣt*, the Egyptian ideal of order, right, and truth, is a sloped riverbank .

Draftsmen devised many clever solutions to the problems of composing the waterscape and in creating the scene obliged its figures and objects to interact with each other in a manner consistent with the details as they conventionally appear, rather than with reality. Gangplanks always angle down from the sheerstrake to whatever baseline indicates the shore. To reach tow-boats in different registers, tow-lines angle up or down (fig. 5-7). The draftsman widened the steps of a gangplank for the feet of a stevedore (fig. 8-18), and made figures and objects larger and smaller as necessity dictated.

Watercraft are almost exclusively presented in side view, limiting our ability to interpret deck arrangements, although models are of enormous help in this aspect. However, even model boats are only three-dimensional impressions of working craft, seldom displaying internal structures and being potentially ambiguous even in the arrangement of the deck: solid-decked and partially-hollowed decks of the same kinds of boats and the existence of model above-deck rowers' seats raises the question as to how exactly the rowers were positioned. Both two- and three-dimensional representations of hulls may have flat bottoms, the former as a result of the convention used to represent an object floating on the water, the latter to facilitate their placement on the floor of the tomb. The draftsman did not always, the model-carver never, draw strakes. In scenes this reflects a deliberate contrast between working boats and the gaily painted hulls of official traveling boats (fig. 9-17). Other conventions result from attempts to clarify an object or arrangement that the Egyptians might otherwise find ambiguous. Not all of these attempts are successful for the modern observer: are the rudder supports of Hatshepsut's ships (figs. 6-50, 6-55) box mounts or



simply hooked crosspieces? More successful, the New Kingdom convention of representing boats with axial rudders makes the "split" stern perfectly clear, but it must be remembered that these boats *did not appear as Egyptian draftsmen have drawn them.*


The crew is equally conventionalized. Rowers, paddlers and helmsmen hold their respective implements in puzzling ways, the last hooking an elbow around tiller or stock as if the artist had nothing else to do with that arm. Rowers and paddlers, often indistinguishable from one another by pose alone, display a distressing array of positions, some of which are peculiar to one period or another and few of which accurately reflect the reality of the grip on the loom. Because the positions of rowers' arms frequently conflict with those of their backs and legs, reconstruction of the stroke is difficult if not impossible. It is certain, however, that at times the rowers stood to take the catch, this resulting in a longer reach that gave additional power to the drive.

The number of men who actually worked aboard a given boat remains open to question, and the variation in scale among figures and boats in both models and scenes makes estimation of the size of the craft extremely difficult. Mention of cargoes and crews in the literary record and archaeological remains provide a firmer base for estimating size, although their application to specific scenes is limited. If the boats in fig. 1-16 are in scale with the stevedores, the vessels are quite small, about six meters in length, or two-thirds the length of the Dashur boats, the smallest of the published hull remains. On the other hand, Predynastic boats appear to have been extremely long if one estimates size from the number of paddlers (sometimes distributed between port and starboard asymmetrically!) given to them by artists.

These Predynastic artists were not counting their lines, only giving the impression of "many paddlers," and in cases such as these the fine line between convention and carelessness blurs. Some artists were more diligent or skilled either in observation or execution than others, and this forms an integral element of the iconographic record. The draftsman of the Syrian ships in TT 162 (fig. 8-15) erred abundantly in his copy of the original scene, while countless of his colleagues failed to include such basic fittings as rudder stanchions, even if they had done so only moments before (cf. figs. 6-34 and 6-38). The draftsman of fig. 7-23 ran the looms of some of the oars on the far side of the rowers' seats, giving rise to an interpretive error (that the seats are tholes) that has persisted for nearly eighty years. The draftsman who composed fig. 6-29 so badly rendered the steering oar that it completely misses the stanchion, and he furthermore positioned it outboard of the bulwark (although this last might be the fault of the sculptor). Such important elements as lanyards, crosspieces, grommets, and even the crew to work them are so

commonly missing that one might think their employment to be exception rather than rule. Details might degenerate as their original utility wanes, peculiar and marked examples being the shovel-bladed steering oars of the sacred barque of Sokar (fig. 6-22) and the use of quarter rudders aboard a boat that should have an axial rudder (fig. 4-15).

The limitations of the medium or the techniques the artist employed also produced inaccuracy. Such errors are often transparent, or must be deduced, in facsimile drawings. The drawing of such details as the looms of the steering and rowing oars prior to filling in the hull, as is the case in fig. 6-13, gives rise to the appearance that the rowers and helmsmen are stationed on the far side of the boat. Although it is clear from the facsimile painting that in the cargo boat in fig. 6-13 this effect was unintentional, it is less clear in the case of the traveling boat in the same figure. Errors made and then corrected, particularly in relief where the corrections would be made in plaster or paint, present similar difficulties. Relief may be superior to paint in durability, but the artists seldom intended the *relief* to be the final product. Corrections and details made in paint or plaster often failed to survive, leaving an only *apparently* complete and finished work. Without traces of paint or plaster we cannot deduce the details of the final work, and remain ignorant of details once given to but now missing from the objects.

Looking beyond the individual scenes reveals inconsistencies throughout the whole of the iconographic record. Ferries, ubiquitous in the literary record, are unknown in the iconographic. Quays and harbors have been excavated, yet are rarely identifiable in reliefs or paintings. The archetypal mooring-stake  appears as an Old Kingdom hieroglyph but not as an object in scenes, and not among the mooring-stakes of Middle Kingdom models; mooring equipment from models is, in fact, extremely rare. Stone anchors are reasonably abundant from archaeological contexts, but appear indisputably in but two scenes (fig. 8-22). The nautical activity of women seems severely limited, until one looks at letters written to, about, or by them. Although wider in scope than the archaeological record of working boats, the iconographic record is not a complete record. Artists picked and chose from the reality around them to suit their own needs, not ours.

A single piece of evidence may remain our only evidence for a type of ship or activity. Were it not for the kitchen tenders from Meketre's tomb, there would be no evidence for such specialized watercraft, and only limited evidence for shipboard food preparation at all (fig. 9-6). Oarlocks and "harim" boats each appear in only two scenes. Although the golden model boat of Queen Ahhotep (fig. 6-53) has, like Meketre's Sporting Boat X (fig. 6-44), only a single helmsman and quarter rudder, nearly

identical model boats from the tomb of Tutankhamen (fig. 6-49) have two: how, then, should we interpret those scenes in which the draftsman has shown drawn a single helmsman and quarter rudder? There is no absolute answer. The three-helmed ship in fig. 6-48 has no parallel, and is in a frustratingly fragmented state. Equipped with three helmsmen, it was large, but we can say little more than that with confidence. This fragment, of which further investigation is planned, underscores in its current state of publication the difficulties of interpreting incomplete representations and of reconstructing ships contained therein.

Evidence, often fragmented, scattered, badly published or difficult to obtain, is easily overlooked. When Davies and Gardiner called the rowers seats in the tomb of Antefoker and Senet (TT 60) "tholes," they were either unaware, of or had forgotten, the models of rowers sitting on virtually identical objects, published seven years before by Reisner (fig. 7-31). The role of women in nautical life, for which we have tantalizing evidence, has received virtually no attention beyond three paragraphs in S. Vinson's dissertation.<sup>5</sup> Our imperfect understanding of Egyptian nautical terminology and naval organization only compounds the difficulties of understanding Egyptian watercraft.

The publications themselves, invaluable to the researcher, present their own difficulties: the epigrapher has already, to some extent, "interpreted" the original scenes, and even photography is not an objective medium. Although modern methods of epigraphy have raised the practice to a scientific art, older publications continue to disseminate errors made by earlier epigraphers and excavators. The degree of epigraphic errata and its effect on interpretation varies wildly. The second steering oar assigned to BM 25360 (fig. 6-68) was questioned in publication as highly doubtful and has resulted in no reconstructions of ships with steering oars mounted at the bow, but the disappearance of the hawser hole of the anchor aboard Sahure's seagoing vessel from the epigraphic record (fig. 8-22.A), and the oversight of the browned top of a loaf of bread in facsimile drawings (fig. 8-27), has for more than thirty years lent fuel to the fire of the argument regarding the Egyptians' use of anchors. Examination of the original material to confirm a detail is not always a viable option. Where the scene or object has disappeared or degraded, nineteenth- and early twentieth-century sources are all that remains on which to base our interpretations. Anyone wishing to draw conclusions from published sources must be aware that not only is he seeing the subject of the scene through the eyes of the ancient artist, but also through the eyes of the epigrapher.

Despite this distance, we must rely upon both these eyes and the hands they guided.

Archaeological remains of the watercraft represent only a handful of types, and entirely neglect the more fragile rafts. Fittings such as oars, rudders and sail are exceptionally rare: oars and paddles are known only from the Khufu and possibly the Dashur boats, as are steering oars and rudders. Only one possible sail is known, and it is very late, from the first century C.E.<sup>6</sup> There are no published remains of masts, spars, or rigging;<sup>7</sup> for these, and for the manner in which the boats were used, we must turn to the artist and his works.

The iconographic record comes to us from draftsmen whose intent was not to provide future generations with a reliable image of a particular object or event, but rather to immortalize the fact of that object or event. The reconstructor (present author included) must take into account not only the ancient source, but the modern one as well, and be prepared to alter his hypothesis upon receipt of better epigraphic information or direct review of the scene or object in question. Only discovery, excavation and detailed examination of archaeological remains of working boats can settle some of the questions raised by the iconography. Other questions will remain forever unanswered. We can only refine our interpretations, because what the Egyptian artist saw face-to-face, we see through a glass darkly.

**NOTES**

- <sup>1</sup> Lichtheim 1973: 63 (Late Dynasty VI).
- <sup>2</sup> Desroches-Noblecourt 1976: 189, 190 (photograph).
- <sup>3</sup> Satire of the Trades, 4 (Middle Kingdom; Lichtheim 1973: 185).
- <sup>4</sup> E.g., O. Deir el-Medina 324 (Dynasty XIX, Rameses II; Wente 1990: 156), P. Turin 1978/208 (Dynasty XX; Wente 1990: 135).
- <sup>5</sup> Vinson 1996: 83-84.
- <sup>6</sup> Schoefer, Cotta and Beentjes 1987, Rouge 1987.
- <sup>7</sup> The nearest we have to remains of a mast is the mortises for the missing mast step of the Matariah boat (Haldane 1993: 242-43).

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**APPENDIX 1**  
**OWNERS OF THE THEBAN TOMBS**

<b>TT</b>	<b>Name</b>	<b>Major Title(s)</b>	<b>Date</b>
19	Amenmosi	First Prophet of Amenhotep of the Forecourt	Dynasty XIX (Rameses I - Seti I)
20	Mentuhirkopeshef	Fan-Bearer, Mayor of Aphroditopolis	Dynasty XVIII (Thutmose III?)
36	Ibi	Chief Steward of the Divine Adoratrix	Dynasty XXVI (Psammetichus I)
39	Puimre	Second Prophet of Amon	Dynasty XVIII (Thutmose III)
40	Amenhotep (Huy)	Viceroy of Kush	Dynasty XVIII (Akhenaten - Tutankhamen)
49	Neferhotep	Chief Scribe of Amon	Dynasty XVIII (Ay?)
51	Userhat (Neferhabef)	First Prophet of the Royal Ka of Thutmose I	Dynasty XIX (Seti I)
57	Khaemhat (Mahu)	Royal Scribe, Overseer of the Granaries of Upper and Lower Egypt	Dynasty XVIII (Amenhotep III)
60	Antefoker Senet	Governor of the Town, Vizier Prophetess of Hathor (mother of Antefoker)	Dynasty XII (Senwosret I)
63	Sobekhotep	Mayor of the Southern Lake and the Lake of Sobek	Dynasty XVIII (Thutmose IV)
78	Horemheb	Royal Scribe, Scribe of Recruits	Dynasty XVIII (Thutmose III - Amenhotep III)
79	Menkheperresonb	Overseer of the Granaries of the Lord of the Two Lands	Dynasty XVIII (Thutmose III - Amenhotep II?)
92	Suemniwet	Royal Butler Clean of Hands	Dynasty XVIII (Amenhotep II)
93	Kenamun	Chief Steward of the King	Dynasty XVIII (Amenhotep II)
95	Mery	First Prophet of Amon	Dynasty XVIII (Amenhotep II)

<b>TT</b>	<b>Name</b>	<b>Major Title(s)</b>	<b>Date</b>
96	Sennefer	Mayor of the Southern City	Dynasty XVIII (Amenhotep II)
100	Rekhmire	Vizier	Dynasty XVIII (Thutmose III - Amenhotep II)
143	(name lost)		Dynasty XVIII (Thutmose III - Amenhotep II?)
162	Kenamun	Mayor in the Southern City, Overseer of the Granary of Amon	Dynasty XVIII
178	Neferempet (Kenro)	Scribe of the Treasury in the Estate of Amon-Ra	Dynasty XIX (Rameses II)
181	Nebamun Ipuky	Head Sculptor of the Lord of the Two Lands Sculptor of the Lord of the Two Lands	Dynasty XVIII (Amenhotep III)
217	Ipuy	Sculptor	Dynasty XIX (Rameses II)
222	Hekmaetrenakht (Turo)	First Prophet of Montu, Lord of Thebes	Dynasty XIX (Rameses III - Rameses IV)
261	Khaemwaset	Wab-priest of Amenhotep I	Dynasty XVIII
277	Amenemonet	Divine Father of the Mansion of Amenhotep III	Dynasty XIX- XX
280	Meketre	Chief Steward in [...], Chancellor	Dynasty XI (Mentuhotep I)
312	Espekhashuti	Governor of the Town, Vizier	Dynasty XXVI
360	Kaha	Foreman in the Place of Truth	Dynasty XIX (Rameses II)
386	Intef	Chancellor of the King of Lower Egypt, Overseer of Soldiers	Dynasty XI

## APPENDIX 2

### CHRONOLOGY

Due particularly to new work in dendrochronology, absolute chronologies are currently undergoing revision. Therefore the following data, adapted from Baines and Málek 1980: 36-37, should be taken as only approximations.

All dates are B.C.E., except where noted.

LATE PREDYNASTIC	3000
EARLY DYNASTIC PERIOD (Dynasties I-III)	2020-2575
OLD KINGDOM	2575-2134
Dynasty IV	2575-2465
Sneferu	
Khufu	
Radjedef	
Khafra	
Menkaure	
Shepseskaf	
Dynasty V	2465-2323
Userkaf	
Sahure	
Kakai	
Ini	
Raneferef	
Isi	
Menkauhor	
Isesi	
Unas	
Dynasty VI	2323-2150
Teti	
Pepy I	
Nemtyemsaf	
Pepy II	
Dynasties VII, VIII	2150-2134
FIRST INTERMEDIATE PERIOD	2134-2040
Dynasties IX, X (Herakleopolitan)	2134-2040
Dynasty XI (Theban)	2134-2040
Antef I	
Antef II	
Antef III	
Mentuhotep I	

MIDDLE KINGDOM	2040-1640
Dynasty XI (Upper and Lower Egypt)	2040-1991
Mentuhotep I	
Mentuhotep II	
Mentuhotep III	
Dynasty XII	1991-1783
Amenemhet I	
Senwosret I	
Amenemhet II	
Senwosret II	
Senwosret III	
Amenemhet III	
Amenemhet IV	
Nefrusobek	
Dynasty XIII	1783-1640 or later
Dynasty XIV (contemporary with Dynasty XIII or XV)	
SECOND INTERMEDIATE PERIOD	1640-1532
Dynasties XV, XVI (Hyksos)	1640-1532
Dynasty XVII (Theban)	1640-1550
NEW KINGDOM	1550-1070
Dynasty XVIII	1550-1307
Ahmose	
Amenhotep I	
Thutmose I	
Thutmose II	
Thutmose III	
Hatshepsut	
Amenhotep II	
Thutmose IV	
Amenhotep III	
Amenhotep IV (Akhenaten)	
Smenkhkare	
Tutankhamen	
Ay	
Horemheb	
Dynasty XIX	1307-1196
Rameses I	
Seti I	
Rameses II	
Merenptah	
Seti II/Amenmose	
Siptah	
Twosre	
Dynasty XX	1196-1070
Setnakht	
Rameses III-XI	

### THIRD INTERMEDIATE PERIOD 1070-712

Dynasty XXI	1070-945
Dynasty XXII	945-712
Dynasty XXIII	828-712
Dynasty XXIV (Saite)	724-712
Dynasty XXV (Nubia and Thebes)	770-712

### LATE PERIOD 712-332

Dynasty XXV (Upper and Lower Egypt, and Nubia)	712-657
Dynasty XXVI	664-525
Necho I	
Psammetichus I	
Necho II	
Psammetichus II	
Apries	
Amasis	
Psammetichus III	
Dynasty XXVII (First Persian Period)	
Dynasty XXVIII	
Dynasty XXIX	
Dynasty XXX	
Second Persian Period	

### GRAECO-ROMAN PERIOD 332 B.C.E. - 395 C.E.

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=END=

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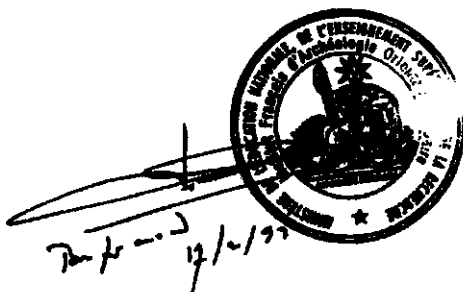
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-----, 1933. *The Tomb of Nefer-hotep at Thebes I-II*. London: Egypt Exploration Society. Pls. XXII, XLII, XLIII.

Davies, Norman de G. and R. O. Faulkner. 1947. A Syrian Trading Venture to Egypt. *Journal of Egyptian Archaeology* 33: 40-46. Pl. VIII

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Glanville, S. R. K. 1972. *Wooden Model Boats*. London: British Museum. Fig. 25



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